

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) Sales Order S.O.1-2

Date: 20 July 1959

Cancelled: 5 August 1959

SO No: 880-1-240

WO No: 30,000 Series

HUGH'S TOOL COMPANY - CONVAIR 880

DELIVERY OF TWA'S FIRST AIRPLANE

The San Diego Division is directed to deliver TWA's first airplane 15 October 1959.

Reference (a) sales order has been revised to reflect the above delivery. Accordingly, all departments concerned are directed to proceed with this change.

This Sales Order is hereby cancelled and the original delivery schedule as established on S.O. 880-1-2 is in effect.

PZB

File No: 2069

P. H. Digges
P. H. Digges
Manager of Commercial Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

23 July 1959

Revised 7 August 1959

No. 199
Model. 22-1

Reference: (a) S. O. 880-1-240 dated 20 July 1959, cancelled 5 August 1959.

DELIVERY OF TWA'S FIRST AIRPLANE

The San Diego Division has been directed, by Reference (a) Sales Order, to deliver TWA's first airplane 15 October 1959.

Revised to cancel.

J Bergstr 8-7

ACTION: All concerned are directed to proceed with the above.

J Bergstr 7-23
J. S. Bergstrom
Project Engineer
6-115

JSB:JMC:is

RECEIVED

AUG 13 '59

PROJECT
SPEC.
GROUP

COPS 30

CONVAIR-SAN DIEGO

SALES ORDER

Sold to:	Hughes Tool Company Houston, Texas	Date:	17 July 1959
Reference:	(a) TWA letter, S30-999A-245, dated 13 July 1959 (b) Commercial Change Proposal No. 269 (c) MCL No. 10,330 (d) D.I.B. No. 4.010	SO No:	S30-1-239
		WO No:	30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

OXYGEN SYSTEM, CLARIFICATION OF

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,330, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (8/12/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

HDW:cd

Log No: 1900

for W. D. Waller
D. H. Digges
Manager of Commercial Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

24 July 1959

No. 198
22-1

- Reference: (a) S.O. 880-1-239, dated 17 July 1959
(b) CCP No. 269
(c) MCL No. 10,330

Oxygen System, Clarification of.

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,330, reference (c).

Description of Change:

Page 118, Paragraph 3.19.5.4 INDIVIDUAL OUTLETS:

Revise the second sentence to read as follows:

Provisions for one additional mask shall be made for each seat row in the main cabin area (three masks for each of the 19 rows on both sides of the airplane) to provide for emergency oxygen for children in arms. The oxygen outlet system for the club area shall be as shown on Figure 3.19-4.

Figure 3.19-4 GASEOUS OXYGEN SYSTEM:

Above figure will be replaced in the specification with Enclosure (A) on Customer approval of this CCP.

ACTION: All concerned are authorized to proceed with the above change. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JBB:JMC:gn


J. S. Bergstrom
Project Engineer
Mail Zone 6-115

CCPS 30

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 10 July 1959

Reference: (a) TWA TWK, 880-10014-246, dated
8 July 1959

(b) Commercial Change Proposal No. 292

(c) MCL No. 10,406

(d) D.I.B. No. 4.010

SO No: 880-1-238

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

DELETION OF ICE-DETECTOR UNITS FROM NO. 2 & NO. 4 PODS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 10,406, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (8/11/59) per Reference (d).
- (3) This change results in a decrease in the aircraft guaranteed weight empty of 7 pounds with no effect on performance or delivery schedule.

WDW:cd

Log No: 1800

for *D. H. Digges*
D. H. Digges
Manager of Commercial Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

15 July 1959

No. 196
22-1

Reference: (a) S.O. 880-1-238, dated 10 July 1959
(b) CCP No. 292
(c) MCL No. 10,406

Deletion of Ice-Detector Units From No. 2 and No. 4 Pods.

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on reference (c).

Description of Change:

Page 125, Paragraph 3.20.2.5 ICE-DETECTOR SYSTEM:

Revise the paragraph to read as follows:

"An ice-detector system shall be installed, with warning lights in the pilot compartment. Two detector units shall be installed; one in the No. 1 pod and one in the No. 3 pod. Automatic control of the airplane anti-icing system shall be provided; operated by either of the ice-detector units. Provisions shall be made for the installation of one ice detector unit in No. 2 pod and one in No. 4 pod."

Page A-2, APPENDIX I-C, POWER PLANT EQUIPMENT:

Revise the below item as follows:

From:	"4	Ice Warning Detectors	Goodyear (Carl Type T260-MK12A)	3065-1802"
To:	"2	Ice Warning Detectors	Goodyear (C.A.R.L. Type T260- MK12A)	3065-1802"

This change results in a decrease in the aircraft guaranteed weight empty of 7 pounds per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


J. S. Bergstrom
Project Engineer

CONTAIN-SAN DIEGO

SALES ORDER

Revised: 27 June 1961

Revised &

Retyped: 21 March 1961

Date: 7 July 1959

*18 April 1960

*16 February 1961

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA TWX, 880-992A-243, dated
1 July 1959
(b) CCP No. 291
(c) MCL No. 10,405
(d) S.I.B. No. 4.010
(e) CV TWX dated 14 April 1960
(f) TWA TWX 880-1304A-320 dated 15 April 1960
(g) S.O. 880-1-388

S.O. No: 880-1-237

W.O. No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

REVISION TO AIR CONDITIONING SYSTEM

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,405, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (8/3/59) per Reference (d).
- (3) This change will be incorporated in 17 HTC 880 Aircraft (Engineering Version Nos. 3-5, 12-14, 19, 21-31, Convair Mfg. Seq. Nos. 3, 6, 15, 18, 19, 25, 27, 28, 30-35, 39, 40 & 42), and results in a decrease of guaranteed weight empty of 1. pounds with no effect on performance or delivery schedule.

29-17

20, 22, 23

Willis:ed

Log Nos: 1787, 1233, 891, 2105

/s/ W. D. Willis

for D. H. Digges

Manager of Commercial Contracts

* Rev to eng total a/c involved from 19
to 20, Ref. (e) & (f)-RP

**Rev to eng effectiveness, add Ref. (g)-WEO

***Rev to delete Eng Ver #2 & add Eng Ver #5-WEO

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA Minutes

13 July 1959
Revised 25 April 1960

No. 197
Model. 22-1

- Reference: (a) S. O. 880-1-237 dated 7 July 1959, Rev. 18 April 1960
(b) Commercial Change Proposal No. 291
(c) MCL No. 10,405

REVISION TO AIR CONDITIONING SYSTEM

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), prepared in accordance with MCL 10,405, Reference (c).

Description of Change:

Page 126A, Figure 3.20-1 AIR CONDITIONING PRESSURIZATION SYSTEM:

Revise above illustration by deleting the fresh air valve from the ground air conditioning system.

20

This change will be incorporated on 19-TWA 880 Aircraft (Airplane Nos. 12 through 39).³¹ This change results in a decrease in the guaranteed weight empty of 10 pounds per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JBB:JMC:is

VS-4


J. S. Bergstrom
Project Engineer
6-115

RECEIVED

MAY 6 '60

PROJECT
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GROUP

Sold to: Hughes Tool Company
Houston, Texas

Revised: 1 May 1961
Date: 7 July 1959
Revised: 2 February 1960
SO No: 880-L-238

Reference: (a) TWA letter, 880S-436, dated
25 June 1959
(b) TWA Letter 880S-542 dated
28 January 1960
(c) TWA letter 880S-109, dated
16 March 1961 (610007)

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

TECHNICAL DATA SHIPPING INFORMATION

In accordance with reference (a), the below listed technical data is to be shipped to the addressees set forth below:

List 1

Preliminary Flight Manual
FAA Approved Flight Manual
Maintenance Manual
Wiring Diagram Manual
Structural Repair
Marking Manual
Specification Tool & Ground Equip.
Weight & Balance Information

Vendor Equipment List
Drafting Room Manual
FAA Reports
Wiring Diagrams
Electrical Load Analysis
Engineering Process Specification
Other Reports
Micro Masters

Ship to: Trans World Airlines, Inc.
Room 1-361
Mid-Continent International Airport
Kansas City 8, Missouri
Attention: Manager-Technical Services Publications

List 2

Parts Catalog
Service Bulletins
Time Prints
Standards Manual

Spare Parts List (IBM Cards)
Price Catalog
Spare Parts List (Convair
Manufactured)

Ship to: Trans World Airlines, Inc.
Mid-Continent International Airport
Parkville, Missouri
Attention: Manager, Provisioning

Sold to: Houston Tool Company
Houston, Texas

*Revised 2 February 1960
7 July 1959
SO 880-1-236

List 2

Training Data:
Service Training Guide
Training Literature
All Charts

Ship to: Trans World Airlines, Inc.,
Mid Continent International Airport
Parkville, Missouri
Attention: Manager, Maintenance Training

Pursuant to Reference (b) this Sales Order is revised to give further instructions
on transmittal of data:

1. A copy of all transmittal letters or shipment notices on the above data should be transmitted to TWA, Attention of Mr. E. E. Cannady, Director of Equipment, Contracts, & Administration, 10 Richards Road, Kansas City 8, Missouri.

AMM:ed
PTGaks *PLH*

Revised: To change address in List #1
is to add Ref. (c).

W. D. Waller
for D. H. Digges
Manager of Commercial Contracts

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
30

Sold to: Hughes Tool Company
Houston, Texas

Date: 1 July 1959

Reference: (a) TWA letter, 880-980A-240, dated
22 June 1959
(b) Commercial Change Proposal No. 282
(c) MCL No. 10,339
(d) D.I.B. No. 4.010

SO No: 880-1-235

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE AS 246C TO AS 264D

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,339, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (6/27/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.
- (4) The Commercial Contracts Department is to be notified of any change in approved installations that may result from compliance with AS 264D prior to proceeding with the accomplishment of such change.

RECEIVED
JUL 10 '59
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WDW:PNG:cd

Log No: 1735

WD Walker
D. H. Digges
Manager of Commercial Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

2 July 1959

No. 195
Model. 22-1

- Reference (a) S. O. 880-1-235 dated 1 July 1959
(b) Commercial Change Proposal No. 282
(c) MCL No. 10,339

CHANGE AS246C to AS264D

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,339, Reference (c).

The Commercial Contracts Department is to be notified of any change in approved installations that may result from compliance with AS 264D prior to proceeding with the accomplishment of such change.

Description of Change:

Page 74 (Cont), Paragraph 3.16.8.2.2 - INSTRUMENT PANELS"

Change the following in the first sentence:

From: "Aeronautical Standard 246C, revised 12-15-54"

To: "Aeronautical Standard 264D, revised 3-15-56"

RECEIVED
JUL 8 '59
PROJECT
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GROUP

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


Mr. J. S. Bergstrom
Project Engineer
6-115

JSB:JMC:is

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 27 May 1959
SO No: 880-1-234
WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 29

- (1) Attached is a copy of Change Order No. 29 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 239, 241, 242, 243, 244, 245, 247, 249, 251, and 252 on the Model 880 aircraft.

DW:cd

Log No: 11381

for O D Weller
D. H. Digges
Manager of Commercial Contracts

cc: E. Burke (w/exec. copy)
G. T. Bovas (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
A. J. Braudic
J. J. Jodka (w/attach)
Sales Order File
Change Order No. 29 File

Change Order No. 29

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 239, 241, 242, 243, 244, 245, 247, 249, 251, and 252 and Commercial Change Proposal Summary No. 28 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 28 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 28 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 239 - Dual Distance Measuring Equipment Tacan, Installation of (Pages 56, 61A, 84, 86, 89, 102 Cont., 104, and A-5 Cont.)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring	\$ 15,007.00	\$ 450,210.00
Non-recurring	<u>52.00</u>	<u>1,560.00</u>
Total Charges	<u>\$ 15,059.00</u>	<u>\$ 451,770.00</u>

2. Change No. 241 - Delete Reference to Aileron from Paragraph 3.5.2.6 (Page 22)

No Charges or Credits

Change Order No. 29

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

- F. 3. Change No. 242 - Provide Assist Ropes
in Flight Compartment (Page 118 Cont.)

No Charges or Credits

4. Change No. 243 - Course Deviation
Indicator, Placarding of (Pages 56
and 61A)

No Charges or Credits

5. Change No. 244 - Nordskog Buffet Ovens,
Installation of (Pages 108, A-1-1, A-14
Cont., 118E, 118F, 118G, 118H, 118I, and
118J)

Recurring	\$ 313.00	\$ 9,390.00
Non-recurring	<u>26.00</u>	<u>780.00</u>
Total Charges	<u>\$ 339.00</u>	<u>\$ 10,170.00</u>

6. Change No. 245 - Flush Buffet Door
Latches, Installation of (Pages 118E,
118F, 118G, 118H, 118I, and 118J)

Recurring	\$ None	\$ None
Non-recurring	<u>54.00</u>	<u>1,620.00</u>
Total Charges	<u>\$ 54.00</u>	<u>\$ 1,620.00</u>

7. Change No. 247 - Designation of Service
Interphone Stations (Page 99)

No Charges or Credits

8. Change No. 249 - Customer Vended Equipment,
Deletion of (Pages 103, 104C, 118 Cont.,
A-1, A-7, A-14 Cont., and A-18)

Recurring	\$ 1,314.00	\$ 39,420.00
Non-recurring	<u>31.00</u>	<u>930.00</u>
Total Charges	<u>\$ 1,345.00</u>	<u>\$ 40,350.00</u>

9. Change No. 251 - Change Jack Pad Adapters
from AAF to MS-type (Page 127)

No Charges or Credits

Change Order No. 29

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

- F. 10. Change No. 252 - Change Aisle Width
from 28 to 24 Inches (Page 113)

No Charges or Credits

11. Summary of the foregoing charges and/or credits:

Recurring	\$ 16,634.00	\$ 499,020.00
Non-recurring	<u>163.00</u>	<u>4,890.00</u>
Total Charges	<u>\$ 16,797.00</u>	<u>\$ 503,910.00</u>

- G. The attached Specification Change Nos. 239, 241, 242, 243, 244, 245, 247, 249, 251, and 252 and Commercial Change Proposal Summary No. 28 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 29 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 26, 27, and 28 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 26, 27, and 28 are so executed by Hughes Tool Company, this Change Order No. 29 shall be considered in full force and effect. In the event said Change Order Nos. 26, 27, and 28 are not so executed by Hughes Tool Company, this Change Order No. 29 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 20th day of May 1959.

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By B. Coggan

Title Vice President

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 27 May 1959

SO No: 880-1-233

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 28

- (1) Attached is a copy of Change Order No. 28 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Changes Nos. 186, 208, 222, 224, 226, 234, 236, 237, on the Model 880 aircraft.

HDW:ad

Log No: 1380

for D. H. Digges
D. H. Digges
Manager of Commercial Contracts

cc: E. Burke (w/exec. copy)
G. T. Bowes (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)✓
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
A. J. Braudie
J. J. Jodke
Sales Order File
Change Order No. 28 File

Change Order No. 28

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 186, 208, 222, 224, 226, 234, 236, and 237 and Commercial Change Proposal Summary No. 27 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30, except as follows:

Change No. 224 undelivered - 24; Delivery Nos. 7-30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 27 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 27 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 186 - Specification Administrative Change, Elevators (Page 24)

No Charges or Credits

2. Change No. 208 - Mach Trim Provisions, "Kollaman Integrated Flight Instrument System" Control Chassis (Page A-10)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring	\$ 882.00	\$ 26,460.00
Non-recurring	<u>297.00</u>	<u>8,910.00</u>
Total Charges	\$ 1,179.00	\$ 35,370.00

Change Order No. 28

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

- F. 3. Change No. 222 - Audible Altitude Warning Signal, Incorporation of (Pages 80 and 125)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring	\$ 144.00	\$ 4,320.00
Non-recurring	<u>242.00</u>	<u>7,260.00</u>
 Total Charges	 <u>\$ 386.00</u>	 <u>\$ 11,580.00</u>

4. Change No. 224 - Rubber Line Reference on Polar Path Compass Flux Gate, Installation of (Pages 59 and 59 Cont.)

	<u>Per Airplane</u>	<u>Total for 24 Airplanes</u>
Recurring	\$ 87.00	\$ 2,088.00
Non-recurring	<u>103.00</u>	<u>2,472.00</u>
 Total Charges	 <u>\$ 190.00</u>	 <u>\$ 4,560.00</u>

5. Change No. 226 - Puritan Oxygen Masks, Crew Supplemental, Installation of (Page 118 and A-18)

No Charges or Credits

6. Change No. 234 - HF Communications Equipment, Change from Installation to Provisions (Pages 83, 85, 89, 90, 96, 97, 104A, 104C, A-5, and A-7)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Credit	\$ 4,228.00	\$ 126,840.00
Non-recurring	<u>216.00</u>	<u>6,480.00</u>
 Total Credits	 <u>\$ 4,012.00</u>	 <u>\$ 120,360.00</u>

7. Change No. 236 - Power Supply, 416N-5 Collins, Change of (Page A-5)

Recurring	\$ 61.00	\$ 1,830.00
Non-recurring	<u>25.00</u>	<u>750.00</u>
 Total Charges	 <u>\$ 86.00</u>	 <u>\$ 2,580.00</u>

Change Order No. 28

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

- F. 8. Change No. 237 - Spare Wiring Conduit,
Installation of (Page 68 Cont.)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring	\$ 124.00	\$ 3,720.00
Non-recurring	<u>63.00</u>	<u>1,890.00</u>
Total Charges	\$ 187.00	\$ 5,610.00

9. Summary of the foregoing charges and/or credits:

	<u>Per Airplane</u>	<u>Total for Purchase Agreement</u>
Recurring Credit	\$ 2,930.00	\$ 88,422.00
Non-recurring Charge	<u>946.00</u>	<u>27,762.00</u>
Total Credits	\$ 1,984.00	\$ 60,660.00

- G. The attached Specification Change Nos. 186, 208, 222, 224, 226, 234, 236, and 237 and Commercial Change Proposal Summary No. 27 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.

- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 28 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 25, 26, and 27 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 25, 26, and 27 are so executed by Hughes Tool Company, this Change Order No. 28 shall be considered in full force and effect. In the event said Change Order Nos. 25, 26, and 27 are not so executed by Hughes Tool Company, this Change Order No. 28 shall be void and of no effect.

Change Order No. 28

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 20th day of May 1959,

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By B. Coggan

Title Vice President-Convair Division

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 26 May 1959

Reference: (a) Article 13 of Purchase Agreement

SO No: 880-1-232

WO No: 30,000 Series

MODEL 880 DEMONSTRATION FLIGHT

- (1) This Sales Order is issued to authorize a demonstration ride on the Model 880 airplane for the following TWA personnel on 26 May 1959:

J. B. LeClair
S. G. Granger
D. Bebee

- (2) This demonstration flight is to be performed on a non-interference basis with the 880 flight test program.
- (3) All costs of the flight, if any, additive to normal flight test costs incurred in connection with this Sales Order are to be charged to the TWA contract.

WDW:bc

Log No: 1355

D. H. Diggers
D. H. Diggers
Manager of Commercial Contracts

PPPS 30

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 21 May 1959

Reference: (a) TWA letter, 880-947A-234, dated
18 May 1959

(b) Commercial Change Proposal No. 271

(c) MCL No. 10,328

(d) D.I.B. No. 4.010

SO No: 880-1-231

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

ADD FLIGHT CREW SHOULDER HARNESS INERTIA REELS TO EQUIPMENT LIST

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,328, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (6/14/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

RECEIVED

MAY 26 '59

PROJECT
SPEC.
GROUP

WDW:be

Log No: 1327

D. H. Digges
D. H. Digges
Manager of Commercial Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

27 May 1959

No. 193

Model. 22-1

Reference: (a). S. O. 880-1-231 dated 21 May 1959
(b). Commercial Change Proposal No. 271
(c). MCL No. 10,328

ADD FLIGHT CREW SHOULDER HARNESS INERTIA
REELS TO EQUIPMENT LIST

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,328, Reference (c).

Description of Change:

Page 2A, Figure 1-1 GENERAL ARRANGEMENT:

Revise above figure to reflect correct height-overall dimension

Page 15A, Paragraph 3.1.3.3 BODY:

Revise the fourth item as follows:

<u>From:</u> Height-overall	36' 0.3"
<u>To:</u> Height-overall	36' 3.7"

Page A-14, APPENDIX I-C FURNISHINGS:

Change the following items in the equipment list:

From: 2 Pilot's Safety Belt and
Shoulder Harness

- 1 Flight Engineer's Safety
Belt and Shoulder Harness
- 2 Stewardess Safety Belt and
Shoulder Harness

To: 2 Pilot's Safety Belt and Pacific Scientific 0101145-0
Inertia Reels Including
Shoulder Harness

1 Flight Engineer's Safety Pacific Scientific 0101146-0
Belt and Inertia Reel
Including Shoulder Harness

3 Stewardess' Safety Belt and
Shoulder Harness

Add the following items to the equipment list:

- 1 Observer's Seat
- 1 Observer's Safety Belt
and Shoulder Harness

RECEIVED

JUN 3 '59

PROJECT
SPEC.
GROUP

TWA MINUTES #193

27 May 1959
Page #2

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB:JMC:1a

J.S. Bergstrom
J.S. Bergstrom
Project Engineer
6-115

RECEIVED
JUN 3 '59
PROJECT
SPEC.
GROUP

CCPS 30

CONVAIR - SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 18 May 1959

Reference: (a) TWA letter, 880-942A-233, dated
6 May 1959

(b) Commercial Change Proposal No. 277

(c) MCL No. 10,334

(d) D.I.B. No. 4.010

SO No: 880-1-230

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

DELETION OF WORD "TRIM" FROM PARAGRAPH 3.6.3

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,334, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (6/11/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

RECEIVED

MAY 26 '59

PROJECT
SPEC.
GROUP

WDW:bs

Log No: 1271

W. W. Wallin
J. R. D. H. Digges
Manager of Commercial Contracts

✓

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

RECEIVED

TWA MINUTES

MAY 21 '59

19 May 1959

PROJECT
SPEC.
GROUP

No. 192
Model. 22-1

Reference: (a). S. O. 880-1-230 dated 18 May 1959
(b). Commercial Change Proposal No. 277
(c). MCL No. 10,334

DELETION OF WORD TRIM FROM PARAGRAPH 3.6.3

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,334, Reference (c).

Description of Change:

Page 24, Paragraph 3.6.3 - ELEVATORS:

In the first line of the last sentence, delete the word "trim".

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order Date.


J. B. Bergstrom
Project Engineer
6-115

JSB:JMC:18

*Conway by
SO-880-1-27*

CONVAIR-SAN DIEGO.

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 13 May 1959
Revised: 27 May 1959
SO No: 880-1-229

Reference: (a) Commercial Change Proposal No. 49
(b) Detail Specification Paragraph
3.19.5.4

WO No: 30,000 Series

(c) TWA TNK, 5-24, dated 20 May 1959

HUGHES TOOL COMPANY - CONVAIR 880

REVISED OXYGEN OUTLETS IN LOUNGE AREA

(1) TWA has agreed that the following oxygen outlet arrangement in the lounge area of its Model 880 aircraft will be deemed by TWA to comply with the referenced paragraph of the Detail Specification and contract requirements:

- * Add two masks on the right hand side of the lounge area, one additional mask in the four seat cluster forward (making a total of five masks in this area), and one additional mask at the two aft inboard facing right hand seats (for a total of three masks in this area).

Accordingly, all departments concerned are directed to proceed with incorporation of the above oxygen configuration.

(2) Price effects of this change are included in Sales Order No. 880-1-27.

- * Install two extra lounge area oxygen masks in overhead at FS. 464 on B.L. 1618 L and R. Installation should permit satisfactory and practical maintenance and trouble-shooting of leaking connections without removal of headliner, and service box to be removable through its access.

WWD:be

Log No: 1421

Revised to change indented portion
of Para (1) and add Ref (c).

P. H. Digges
P. H. Digges
Manager of Commercial Contracts

RECEIVED

JUN 8 '59

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

1 June 1959

No. 194
Model. 22-1

- Reference: (a). S. O. 880-1-229 revised 27 May 1959
(b). Commercial Change Proposal No. 49
(c). Detail Specification Paragraph 3.19.5.4

REVISED OXYGEN OUTLETS IN LOUNGE AREA

TWA has agreed, as evidenced by Reference (a), that the following oxygen outlet arrangement in the lounge area of its Convair 880 Aircraft will be deemed by TWA to comply with Reference (c) paragraph of the Detail Specification and control requirements:

Install two extra lounge area oxygen masks in overhead at FS. 464 on B.L. 1618 L and R. Installation should permit satisfactory and practical maintenance and trouble-shooting of leaking connections without removal of headliner, and service box to be removable through its access.

ACTION: All concerned are authorized to proceed with the above.


J. S. Bergstrom
Project Engineer
6-115

JSB:JMC:is

RECEIVED

JUN 3 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS 29

Sold to: Hughes Tool Company
Houston, Texas Date: 30 April 1959

Reference: (a) TWA letter, 880-938A-231, dated
27 April 1959 SO No: 880-1-228

(b) Commercial Change Proposal No. 267 WO No: 30,000 Series

(c) MCL No. 10,382

(d) D.I.B. No. 4.01.0

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF MODIFIED 51R-3 VOR RECEIVER

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,382, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Commercial Contracts Department within four weeks (5/28/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 1121

D. H. Digges
for D. H. Digges
Manager of Commercial Contracts

RECEIVED

MAY 7 '59
PROJECT
SPEC.
GROUP

✓

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

11 May 1959

No 191
Model 22-1

Reference: (a) S. O. 880-1-228 dated 30 April 1959
(b) Commercial Change Proposal No. 267
(c) MCL No 10,382

INSTALLATION OF MODIFIED 51R-3 VOR RECEIVER

1. Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL NO. 10,382, Reference (c)

Task is as follows:

Install on shelf "B" & "C" of Electronic rack Collins VOR units marked 1-49724 "H" in lieu of those identified as 1-49724 "G".

VENDOR TASK

Modify 51R-3 VOR Receiver from "G" dwg. change to "H" dwg. change

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date



J. S. Bergstrom
Project Engineer
6-115

JBB:JMC:is

RECEIVED

MAY 15 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 27 April 1959

SO No: 880-1-227

WC No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 27

- (1) Attached is a copy of Change Order No. 27 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Changes 97B, 104B, 228, 230, 231, and 232 on the Model 880 aircraft.

(W)
WDW:be

Log No: 1037

D. H. Digges
D. H. Digges
Manager of Commercial Contracts

cc: E. Burke (w/enclosed copy)
G. T. Bovee (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
A. J. Braudis
J. J. Jodke (w/attach)
Sales Order File
Change Order No. 27 File

Change Order No. 27

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 97B, 104B, 228, 230, 231, and 232 and Commercial Change Proposal Summary No. 26 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 26 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 26 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 97B - Integral Folding Food Trays, Installation of (Pages 106, 129, and A-15)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 3,680.00	\$ 110,400.00
Non-recurring Charge	<u>676.00</u>	<u>20,280.00</u>
Total Charges	<u>\$ 4,356.00</u>	<u>\$ 130,680.00</u>

2. Change No. 104B - 52-Inch Wide Passenger Seats, Installation of (Pages 2B, 106, 129, A-15, and A-24A)

No Charges or Credits

3. Change No. 228 - Stewardess Step Cabin Passenger Seats, Installation of (Page 106)

No Charges or Credits

Change Order No. 27

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
 by and between
 Hughes Tool Company and General Dynamics Corporation (Convair Division)

- F. 4. Change No. 230 - Crash Energy Absorber
 Standard Cabin, Installation of (Pages
 106 Cont'd. and A-14)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 969.00	\$ 29,070.00
Non-recurring Charge	<u>623.00</u>	<u>18,690.00</u>
Total Charges	<u>\$ 1,592.00</u>	<u>\$ 47,760.00</u>

5. Change No. 231 - Muslin Sub-covers Cabin
 Passenger Seats, Installation of (Page
 105)

Recurring Charge	\$ 869.00	\$ 26,070.00
Non-recurring Charge	<u>11.00</u>	<u>330.00</u>
Total Charges	<u>\$ 880.00</u>	<u>\$ 26,400.00</u>

6. Change No. 232 - Adjustable Head Rest
 Cabin Passenger Seats, Installation of
 (Page 106)

Recurring Charge	\$ 1,818.00	\$ 54,540.00
Non-recurring Charge	<u>354.00</u>	<u>10,620.00</u>
Total Charges	<u>\$ 2,172.00</u>	<u>\$ 65,160.00</u>

7. Summary of the foregoing charges and/
 or credits:

Recurring Charges	\$ 7,336.00	\$ 220,080.00
Non-recurring Charges	<u>1,664.00</u>	<u>42,920.00</u>
Total Charges	<u>\$ 9,000.00</u>	<u>\$ 270,000.00</u>

- G. The attached Specification Change Nos. 97B, 104B, 228, 230, 231, and 232 and
 Commercial Change Proposal Summary No. 26 are hereby incorporated into and be-
 come a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956,
 Revised 7 September 1956.

Change Order No. 27

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 27 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 25 and 26 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 25 and 26 are so executed by Hughes Tool Company, this Change Order No. 27 shall be considered in full force and effect. In the event said Change Order Nos. 25 and 26 are not so executed by Hughes Tool Company, this Change Order No. 27 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 13th day of April 1959.

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel,

By B. Coggan

Title Special Representative

Title Vice President
Convair Division

1/28/59
Approved as to
Legality & Form
C.C.S.

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 27 April 1959

SO No: 880-1-226

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 26

- (1) Attached is a copy of Change Order No. 26 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Changes 34A, 160A, 206A, 207, 209, 211, 212, 215, 216, 217A, 218, 221, 225, and 227 on the Model 880 aircraft.

[initials] WDW:bc

Log No: 1098

[Signature] D. H. Digges
Manager of Commercial Contracts

cc: E. Burke (w/exec. copy)
G. T. Bovee (w/attach)
880 Project Office (w/attach)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
Commercial Contracts (S.O.)
E. E. Johnson (w/attach)

J. Doig (w/attach)
W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Arthur Anderson & Co. (w/attach)
Change Order No. 26 File
A. J. Braudie
J. J. Jodka (w/attach)

CHANGE ORDER NO. 26

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

- A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 34A, 160A, 207, 209, 211, 212, 215, 216, 217A, 218, 221, 225, and 227 and Commercial Change Proposal Summary No. 25 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30, except as follows:
Change No. 206A undelivered - 24; Delivery Nos. 7-30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 25 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 25 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 34A - Provisions for Passenger Service Supply Cabinet (Page 109)

No Charges or Credits

2. Change No. 160A - Revision to Interior Fabric Weights (Page A-16)

No Charges or Credits

CHANGE ORDER NO. 26

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956

by and between

Hughes Tool Company and General Dynamics Corporation (Convair Division)

3. Change No. 206A - Increased Ramp Weight
and Takeoff Weight (TWA A/C Nos. 7-30)
(Pages 19 and 6B)

	<u>Per Airplane</u>	<u>Total for 24 Airplanes</u>
Recurring Charge	\$ 839.00	\$ 20,136.00
Non-recurring Charge	<u>408.00</u>	<u>9,792.00</u>
Total Charges	<u>\$ 1,247.00</u>	<u>\$ 29,928.00</u>

4. Change No. 207 - Landing Gear Component
Heat Treat (Page 36)

No Charges or Credits

5. Change No. 209 - Specification Administrative
Change (Page 179)

No Charges or Credits

6. Change No. 211 - Specification Administrative
Change (Page 178)

No Charges or Credits

7. Change No. 212 - Installation of Provisions
for VG Recorder (Page 61)

No Charges or Credits

8. Change No. 215 - Specification Administrative
Change (Page 7)

No Charges or Credits

9. Change No. 216 - TWA Selected Exterior
Markings and Color Scheme (Page A-15)

No Charges or Credits

10. Change No. 217A - CAR Amendment 4b9
(Pages 8, 11C, and 11D)

No Charges or Credits

CHANGE ORDER NO. 26

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

11. Change No. 218 - Replacement of
Recirculation Fan (Page A-17)

No Charges or Credits

12. Change No. 221 - Revision to Buffet Ovens
(Pages 118E, 118F, 118G, 118H, 118I, 118J,
and 118K)

	<u>Per Airplane</u>	<u>Total for 20 Airplanes</u>
Recurring Charge	\$ NONE	\$ NONE
Non-recurring Charge	<u>\$ 79.00</u>	<u>\$ 2,364.00</u>
Total Charges	<u>\$ 79.00</u>	<u>\$ 2,364.00</u>

13. Change No. 225 - Revision to ATC
Transponder Panel (Page A-7)

Recurring Charge	\$ 60.00	\$ 1,200.00
Non-recurring Charge	<u>\$ 13.00</u>	<u>\$ 260.00</u>
Total Charges	<u>\$ 73.00</u>	<u>\$ 1,460.00</u>

14. Change No. 227 - Temperature Measurement
Plane Illustration (Pages 120 and 126E)

No Charges or Credits

15. Summary of the foregoing charges and/or credits:

	<u>Ser. 1 - 6 Per Airplane</u>	<u>Ser. 7 & Up. Per Airplane</u>	<u>Total for Purchase Agreement</u>
Recurring Charge	\$ 60.00	\$ 899.00	\$ 21,936.00
Non-recurring Charge	<u>\$ 92.00</u>	<u>\$ 500.00</u>	<u>\$ 12,546.00</u>
Total Charges	<u>\$ 152.00</u>	<u>\$ 1,399.00</u>	<u>\$ 34,482.00</u>

CHANGE ORDER NO. 26

pursuant to

Article 5 of Purchase Agreement dated 10 September 1956
by and between
Hughes Tool Company and General Dynamics Corporation (Convair Division)

- G. The attached Specification Change Nos. 34A, 160A, 206A, 207, 209, 211, 212, 215, 216, 217A, 218, 221, 225, and 227 and Commercial Change Proposal Summary No. 25 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 26 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 23, 24, and 25 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 23, 24, and 25 are so executed by Hughes Tool Company, this Change Order No. 26 shall be considered in full force and effect. In the event said Change Order Nos. 23, 24, and 25 are not so executed by Hughes Tool Company, this Change Order No. 26 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 10 day of April 1959.

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By Thomas B. Eastland, Jr.

Title Chief of Contract Administration
Commercial

-Convair-
Approved as to
Legality & Form
S: 1/26/ 1959

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
29

Sold to: Hughes Tool Company
Houston, Texas

Date: 23 April 1959

Reference: (a) TWA TWX, 880-933A-229, dated
22 April 1959
(b) Commercial Change Proposal No. 268
(c) MCL No. 10,389
(d) D.I.B. No. 4.010

SD No: 880-1-225
WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF FLIGHT RECORDER

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,389, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
 - (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (5/21/59) per Reference (d).
 - (3) This change results in an increase in the aircraft guaranteed weight empty of 32 pounds with no effect on performance or delivery schedule.

WDJ.I.BG

Log No: 1041

fes D. H. Digges
Manager of Commercial Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

JMB

TWA MINUTES

29 April 1959

No. 190
Model. 22-1

- Reference: (a). S. O. 880-1-225 dated 23 April 1959
(b). Commercial Change Proposal No. 268
(c). MCL No. 10,389

INSTALLATION OF FLIGHT RECORDER

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL 10,389, Reference (c).

Description of Change:

Page 61 Paragraph 3.14.3.8 FLIGHT DATA RECORDING PROVISIONS:

Revise the paragraph title and the paragraph to read as follows:

"FLIGHT DATA RECORDER: A Lockheed Air Service Flight Recorder No. 4001550 Model C and Amplifier No. 4001551 shall be installed, with the necessary wiring, static and pitot lines, in the hydraulic compartment."

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Add the following item to the page:

FLIGHT DATA RECORDER

Flight Recorder	Lockheed Air Service	4001550 Model C	
Amplifier	Lockheed Air Service	4001551"	RECEIVED

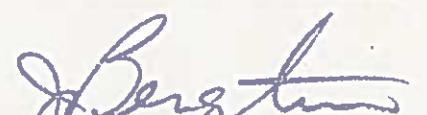
FIGURE 3.17-2, PITOT STATIC SYSTEM SCHEMATIC

MAY 5 '59

PROJECT
SPEC.
GROUP

This change results in an increase in the guaranteed weight empty of 32 pounds per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


J. S. Bergstrom
Project Engineer
6-115

JSB:JMC:is

CONVAIR-SAN DIEGO

SALES ORDER

COPS
JZG

Sold to: Hughes Tool Company
Houston, Texas

Date: 14 April 1959

Reference: (a) TWA TWX, 880-922A-228, dated 13 April 1959

(b) Commercial Change Proposal No. 262

(c) MCL No. 10,379

(d) D.I.B. No. 4.010

SO No: 880-1-224

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

AIRSPEED ANGLE OF ATTACK INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,379, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (5/12/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 1018

W D Willis
for C. G. Glasgow
Manager of Contracts

CONVAIR-SD

Metz

TWA MINUTES

17 April 1959

No. 189

22-1

- Reference (a). S. O. 880-1-224 dated 14 April 1959
(b). Commercial Change Proposal No. 262
(c). MCL No. 10,379

1. Airspeed Angle of Attack Indicator

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,379, Reference (c).

Page A-10, APPENDIX I-C, INSTRUMENTS AND RELATED EQUIPMENT:

Revise the second item in Description List as follows:

From "2 Airspeed Angle-of-Attack Indicator Kollsman B25685-10 plus Range Markings"

To "2 Airspeed Angle-of-Attack Indicator Kollsman (P/N to be supplied)

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

J. S. Bergstrom
J. S. Bergstrom
Project Engineer
6-115

JSB/is

RECEIVED

APR 21 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CPPS #
29

Sold to: Hughes Tool Company
Houston, Texas

Date: 3 April 1959

Reference: (a) TWA letter, 880-910A-224, dated
30 March 1959

(b) Commercial Change Proposal No. 254

(c) MCL No. 10,368

(d) D.I.B. No. 4.010

SO No: 880-1-223

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

REVISED EXTERIOR MARKINGS AND COLOR SCHEMES

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,368, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (5/1/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the airplane of 21 pounds with no effect on performance or delivery schedule.

WIM:ba

Log No: 854

Frank Hartung
C. G. Glasgow
Manager of Contracts

RECEIVED
APR 13 '59

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

8 April 1959
Revised 13 August 1959

No. 188
22-1

- Reference: (a) S.O. 880-1-223 dated 3 April 1959
(b) Commercial Change Proposal No. 254
(c) MCL No. 10,368
(d) T. B. Eastland, Jr. memo to B. J. Simons, dated 10 August 1959

REVISED EXTERIOR MARKINGS AND COLOR SCHEMES

1. TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on Reference (c).
2. The following represents the marking and coloring, but shall not appear in the Specification language:

The prime coat is Pacific Paint and Varnish Company "Super Kor-
opon 765." The epoxy finish coat is Andrew Brown Company "No.
A-423." The red and grey colors will match samples submitted with
TWA Letter No. 8808-350, dated 26 January 1959.

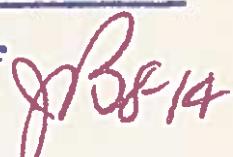
Markings will be applied in accordance with Convair Dwg. 22-
98001, revised as follows:

- a. Reduce height of TWA fleet number to five inches
 - b. Increase height of forward "TWA" on the fuselage to 2½ inches
 - c. Provide Convair decal with clear background
3. This change results in an increase in the guaranteed weight empty of twenty-one (21) lbs. with no effect on performance or delivery schedule.
 4. Per Reference (d), the bottom end of the grey and the white panel should be moved up five inches as requested by TWA.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to contracts within four weeks of Sales Order date.

JSB:KVL:jf


J. S. Bergstrom
Project Engineer
Mail Zone 6-115



RECEIVED

AUG 14 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS

29

Sold to: Hughes Tool Company
Houston, Texas Date: 31 March 1959

Reference: (a) TWA letter, 880-903A-221, dated
23 March 1959 SO No: 880-1-222

(b) Commercial Change Proposal No. 257
(c) MCL Nr. 10,373
(d) D.I.P. No. 4.C10 WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF GABLES G-825 TAPE REPRODUCER

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,373, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/28/59) per Reference (d).
- (3) This change results in an increase in the aircraft guaranteed weight empty of 23 pounds with no effect on aircraft performance or delivery schedule.

WDW:bc

Log No: 856

for Thomas Gardiner
C. G. Glasgow
Manager of Contracts

RECEIVED

APR 1 2 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CEPS
#29

Sold to:	Hughes Tool Company Houston, Texas	Date:	31 March 1959
Reference:	(a) TWA Letter, 880-905A-222, dated 25 March 1959 (b) Commercial Change Proposal No. 265 (c) MCL No. 10,385 (d) D.I.B. No. 4.010	SO No:	880-1-221
		WO No:	30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF MACH AND AIRSPEED "NEVER EXCEED" WARNING SYSTEM

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,385, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
 - (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/28/59) per Reference (d).
 - (3) This change results in an increase in the guaranteed weight empty of the aircraft of six pounds with no effect on delivery schedule or performance. There is no effect on contract price.

WDW:bc

Log No: 808

W W Waller
for C. G. Glasgow
Manager of Contracts

CONVAIR-SAN DIEGO

SALES ORDER

CCPS #29

Sold to: Hughes Tool Company
Houston, Texas Date: 25 March 1959

Reference: (a) TWA letter, 880-9014-220, dated SO No: 880-1-220
20 March 1959
(b) Commercial Change Proposal No. 258 WO No: 30,000 Series
(c) MCL No. 10,377
(d) D.I.B. No. 4.010

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF BUFFET WASTE CONTAINER, NORDSKOG-TYPE

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,377, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b) with the following contingency:

"The waste container described in the change proposal will be physically interchangeable with the Nordskog waste container."

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/22/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 780


for C. G. Glasgow
Manager of Contracts

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA letter, 880-897A-219, dated
9 March 1959
(b) Commercial Change Proposal No. 263
(c) MCL No. 10,324
(d) D.I.B. No. 4.010

Date: 11 March 1959

SO No: 880-1-219

WO No: 30,000 Series

CCPS
#29

HUGHES TOOL COMPANY - CONVAIR 880

MACHINE COUNTERSINK IN ATTACHMENTS TO SUPPORTS

(1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,324, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b) with the following contingency:

"The machine countersink practice will be restricted to the cargo compartment side wall panels."

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/8/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:be

Log No: 669


for C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

17 March 1959

No. 184
22-1

Reference: (a) S. O. 880-1-219 dated 11 March 1959
(b) Commercial Change Proposal No. 263
(c) MCL No. 10,324

MACHINE COUNTERSINK IN ATTACHMENTS TO SUPPORTS

1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b) based on Reference (c).
2. This change has no effect on guaranteed weight empty and performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JHB:KVL:is

J. S. Bergstrom 3-18
J. S. Bergstrom
Project Engineer
6-115

RECEIVED

MAR 20 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

N. F. Brown

SALES ORDER

6-122

CEPS 29

Sold to: Hughes Tool Company
Houston, Texas

J. J.
Date: 6 March 1959

Reference: (a) TWA letter, 880-895A-218, dated
3 March 1959
(b) Commercial Change Proposal No. 255
(c) MCL 10,372
(d) D.I.B. No. 4.010

SO No: 880-1-218

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE IN NOMENCLATURE OF AIR TEMPERATURE INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,372, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (4/3/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 639

RECEIVED

MAR 12 '59

PROJECT
SPEC.
GROUP

C. D. Weller
for C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

11 March 1959

No. 183
22-1

Reference: (a) S. O. 880-1-218 dated 6 March 1959
(b) Commercial Change Proposal No. 255
(c) MCL No. 10,372

CHANGE IN NOMENCLATURE OF AIR TEMPERATURE INDICATOR

1. TWA has accepted, as evidenced by Reference (a) our Proposal Reference (b), based on Reference (c).
2. This change has no effect on aircraft guaranteed weight.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


J.S. Bergstrom
Project Engineer
6-115

JSB:KVL:is

RECEIVED

MAR 16 '59

PROJECT
SPEC.
GROUP

R. S. Fitch
CONVAIR-SAN DIEGO

SALES ORDER

6-122

009329

Sold to: Hughes Tool Company
Houston, Texas

Date: 3 March 1959

Reference: (a) TWA letter, 880-891A-217, dated
27 February 1959

(b) Commercial Change Proposal No. 256

(c) MCL No. 10,323

(d) D.I.B. No. 4.0k0

SO No: 880-1-217

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CLARIFICATION OF SPECIFICATION LANGUAGE IN PARAGRAPHS 3.17.1.1, 3.17.3.1.1 & 3.17.3.5.2

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our specification administrative change, Reference (b), based upon MCL No. 10,323, Reference (c). Accordingly, all departments concerned are directed to proceed with incorporation of the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/31/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:be

Log No: 607

E. Miller
for C. G. Glasgow
Manager of Contracts

RECEIVED

MAR 9 '59

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

11 March 1959

No. 182
22-1

Reference: (a) S. O. 880-1-217 dated 3 March 1959
(b) Commercial Change Proposal No. 256
(c) MCL No. 10,323

CLARIFICATION OF SPECIFICATION LANGUAGE IN PARAGRAPHS 3.17.1.1, 3.17.3.1.1 and 3.17.3.5.2

1. TWA has accepted as evidenced by Reference (a), our change, Reference (b) based on Reference (c).
2. This change has no effect on aircraft guaranteed weight empty and performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB:KVL:is

J. S. Bergstrom 3-72
J. S. Bergstrom
Project Engineer
6-115

RECEIVED

MAR 16 '59

PROJECT
SPEC.
GROUP

CCPS
#78

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas Date: 19 February 1959

Reference: (a) TWA TWX, 880-887A-216, dated SO No: 880-1-216
19 February 1959
(b) Commercial Change Proposal No. 245 WO No: 30,000 Series
(c) MCL No. 10,366
(d) D.L.B. No. 4.CAO

HUGHES TOOL COMPANY - CONVAIR 880

INSTALLATION OF FLUSH BUFFET DOOR LATCHES

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,366, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/19/59) per Reference (d).
- (3) This change results in an increase in the aircraft guaranteed weight empty of one pound with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

WDW:be

Log No: 501

Thomas R. Tolson
For C. G. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
25 Feb. 1959

No. 180
22-1

Reference: (a). S. O. 880-1-216 dated 19 Feb. 1959
(b). Commercial Change Proposal No. 245
(c). MCL No. 10,366

INSTALLATION OF FLUSH BUFFET DOOR LATCHES

1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
2. This change results in an increase in the aircraft guaranteed weight empty of one pound with no effect on performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order Date.

JEB:KVL:is

J. Bergstrom
J. S. Bergstrom
Project Engineer
6-115

RECEIVED

MAR 2 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
#28

Sold to: Hughes Tool Company
Houston, Texas

Date: 18 February 1959
*Revised: 24 February 1959
SO No: 880-1-215

Reference: (a) TWA letter, 880-883A-215, dated
12 February 1959 252
(b) Commercial Change Proposal No. 252
(c) MCL No. 10,321
(d) D.I.B. No. 4,010

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE AISLE WIDTH FROM 28 TO 24 INCHES

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,321, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/18/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:ti

Log No: 421-543

WJ "Rev. to correct CCP No.


for C. G. Glasgow
Manager of Contracts

W.M.
CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

27 Feb. 1959
Revised 3-6-59

No. 181
22-1

Reference: (a). S. O. 880-1-215 dated 18 February 1959
(b). Commercial Change Proposal No. 242 *52*
(c). MCL No. 10,321

CHANGE AISLE WIDTH FROM 28 TO 24 INCHES

Specification Administrative Change

1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
2. This change has no effect on guaranteed weight empty and performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JSB:KVL:is

Bergstrom
J. S. Bergstrom
Project Engineer
6-115

RECEIVED
MAR 11 '59
PROJECT
SPEC
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CEPS
#28

Sold to: Hughes Tool Company
Houston, Texas Date: 13 February 1959

Reference: (a) TWA letter, 880-877A-213, dated SO No: 880-1-214
11 February 1959 WO No: 30,000 Series

(b) Commercial Change Proposal No. 251

(c) MCL No. 10,320

(d) D.I.B. No. 4,010

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE JACK PAD ADAPTERS FROM AAF TO MS-TYPE

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,320, Reference (a). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/13/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 447

WV Waller
for C. G. Glasgow
Manager of Contracts

CONVAIR-SAN DIEGO

SALES ORDER

COPS
#28

Sold to: Hughes Tool Company
Houston, Texas

Date: 13 February 1959

Reference: (a) TWA letter, 880-878A-214, dated
11 February 1959
(b) Commercial Change Proposal No. 249
(c) MCL No. 364
(d) D.I.B. No. 4.010

SO No: 880-1-213

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

DELETION OF CUSTOMER VENDED EQUIPMENT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,364, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/13/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

WDW:bc

Log No: 446

for W.W. Wellin
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

18 Feb. 1959

#178

Reference: (a). S. O. 880-1-213 dated 13 February 1959
(b). Commercial Change Proposal No. 249
(c). MCL No. 10,364

DECLARATION OF CUSTOMER VENDED EQUIPMENT

1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on Reference (c).
2. This change has no effect on aircraft weight empty or performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JBB:KVL:1a

J. S. Bargstrom 2-19
J. S. Bargstrom
Project Engineer
6-115

RECEIVED

FEB 20 '59

PROJECT
SPEC.
GROUP

W.E. Fitzgerald

CONVAIR SAN DIEGO

SALES ORDER

6-122
COPS
#24

Sold To: Hughes Tool Company
Houston, Texas

Date: 12 February 1959

Reference: (a) TWA Letter, 880-S74A-212, dated
6 February 1959
(b) Commercial Change Proposal No. 244
(c) MCL No. 10,365
(d) D.I.H. No. 4,010

SO No: 880-1 212

WD No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

INSTALLATION OF NORDSKOG BUFFET OVENS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,365, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exception: The carrier to be used in the No. 3 oven is to be a 23-unit carrier identical to those used in the No. 1 and No. 2 ovens.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/12/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

44W162

Low No. 11

11

Peter Rostant
P. R. C. G. Glasgow
Manager of Contracts

RECEIVED

FEB 23 '59

PROJECT
SPEC.
GROUP

W. C. Fitzsimons

CONVAIR-SAN DIEGO

SALES ORDER

6-122

CCPS
#28

Sold to: Hughes Tool Company
Houston, Texas

Date: 10 February 1959

SO No: 880-1-211

Reference: (a) TWA letter, 880-866A-210, dated
3 February 1959
(b) Commercial Change Proposal No. 241
(c) MCL No. 10,316
(d) D.I.B. No. 4.010

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

DELETE REFERENCE TO AILERON FROM PARAGRAPH 3.5.2.6

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our Specification Administrative Change, Reference (b), based upon MCL No. 10,316, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (3/10/59) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

WDW:bc

Log No: 422

for W. J. Willis
C. G. Glasgow
Manager of Contracts

RECEIVED

FEB 12 '59

PROJECT
SPEC.
GROUP

CONVAIR-SD

MCG

TWA MINUTES

16 Feb. 1959

No. 177

Reference: (a) S. O 880-1-211 dated 10 February 1959
 (b) Commercial Change Proposal No. 241
 (c) MCL No. 10,316

DELETION REFERENCE TO ALLERON FROM PARAGRAPH 3.6.2.6 OF SPECIFICATION

1. TWA has accepted, as evidenced by Reference (a), our Proposal per Reference (b), based on Reference (c).
2. This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

ACTION: All concerned are authorized to proceed with the above Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date

JSE:KVL:is

S. Bergstrom
S. Bergstrom
Project Engineer

RECEIVED

FEB 17 '59

PROJECT
SPEC.
GROUP


C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
February 13, 1959
February 23, 1959
2

No 176

Reference: (a). S. O. 880-1-211 dated 12 February 1959
(b). Commercial Change Proposal No. 244
(c). MCL No 10,365
(d). D. I. B. No. 4.010

INSTALLATION OF NORDSKOG BUFFET OVENS

1. TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c). Accordingly, all groups concerned are directed to proceed with the change outlined in Reference (b) with the following exception. The carrier to be used in the No. 3 oven is to be a 2½-meal carrier identical to those used in the No. 1 and No. 2 ovens.
2. This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

ACTION: All concerned are authorized to proceed with the above Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date, per Reference (d).


J. S. Bergstrom
Project Engineer
6-115

JSB:im

RECEIVED

FEB 24 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 31 March 1959

SO No: 880-1-210

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CHANGE ORDER NO. 25

- (1) Attached is a copy of Change Order No. 25 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 170 on the Model 880 aircraft.
- (2) The Change Order has been revised to delete revised illustrations on the following pages: 31A, 118B, 118C, 118D, and A-24A.

W.W.
MDW:bo

W.W.
Log No: 838

P. MacFarlane
C. G. Glasgow
Manager of Contracts

cc: G. T. Bowes (w/attach)
A. J. Braudie (w/attach)
880 Project Office (w/attach 2)
Commercial Sales (w/attach)
E. E. Johnson (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section

J. Daig (w/attach)
W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Sales Order File
Arthur Anderson & Co. (w/attach)
Change Order No. 25 File

RECEIVED

APR 2 '59
PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 25
to
HUGHES TOOL COMPANY
Detail Specification Report No. 2D-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change No. 170 and Commercial Change Proposal Summary No. 24 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Change and Commercial Change Proposal Summary No. 24 attached.

D. Effect on performance:

As reflected in Specification Change and Commercial Change Proposal Summary No. 24 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 170 - Cabin Interior Modification and 12-Place Club Area (Pages 1, 2B, 3, 14, 3ka, 78, 81, 105, 106, 109, 111, 113, 114, 118B, RWR 118C, 118B, A-14, A-15, and A-24A)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 4,000	\$ 120,000
Non-recurring Charge	<u>NONE</u>	<u>NONE</u>
Total Charges	\$ 4,000	\$ 120,000

2. Summary of the foregoing charges and/or credits:

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 4,000	\$ 120,000
Non-recurring Charge	<u>NONE</u>	<u>NONE</u>
Total Charges	\$ 4,000	\$ 120,000

CHANGE ORDER NO. 25
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

- G. The attached Specification Change No. 170 and Commercial Change Proposal Summary No. 24 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 25 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order Nos. 23 and 24 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Order Nos. 23 and 24 are so executed by Hughes Tool Company, this Change Order No. 25 shall be considered in full force and effect. In the event said Change Order Nos. 23 and 24 are not so executed by Hughes Tool Company, this Change Order No. 25 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 5th day of February 1959.

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel

By B. Coggan

Title Special Representative

Title Vice President

Concurred
Approved as to
Legality & Form
S. 1/8 1959

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 27 January 1959

SO No: 880-1-209

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 24

- (1) Attached is a copy of Change Order No. 24, signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 204, 205, and 210 on the Model 880 aircraft.

[Signature]
NDW:be

Leg No: 293

for W. J. Willis
C. G. Glasgow
Manager of Contracts

cc: 880 Project Office (w/attach 2)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co. (w/attach)
Change Order No. 24 File

RECEIVED

JAN 28 '59

PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 24
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 204, 205, and 210 and Commercial Change Proposal Summary No. 23 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 23 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 23 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 91B - VGH Recorders, Provisions for (Page 61)

No Charges or Credits

2. Change No. 128B - Miscellaneous Electronics Clarifications (Pages 90, 91, 92, 94, 95, 97, 98, 99, 100, 101, 102, and 104)

No Charges or Credits

3. Change No. 181 - Increase of Maximum Landing Weight (Pages 12, 19, and A-13)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ NONE	\$ NONE
Non-recurring Charge	\$ 985.00	\$ 29,550.00
Total Charges	\$ 985.00	\$ 29,550.00

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SPEC.
GROUP

CHANGE ORDER NO. 24
 to
 HUGHES TOOL COMPANY
 Detail Specification Report No. ZD-22-002
 Dated 1 June 1956, Revised 7 September 1956

- F. 4. Change No. 188 - Battery, Change of From 24 to 27.5 Volts (Pages 66 and A-4)

No Charges or Credits

5. Change No. 189 - Low Energy Ignition System, Installation of (Page 78)

No Charges or Credits

6. Change No. 191 - Specification Administrative Change, Hat Rack Canopy Length (Page 113)

No Charges or Credits

7. Change No. 199A - Flight Deviation Indicator, Revision to (Pages 56 and A-9)

No Charges or Credits

8. Change No. 203 - Spare Wiring in Electronic Rack, Installation of (Not to be a part of the specification language. No pages affected)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 76.00	\$ 2,280.00
Non-recurring Charge	<u>141.00</u>	<u>4,230.00</u>
Total Charges	<u>\$ 217.00</u>	<u>\$ 6,510.00</u>

9. Change No. 204 - Specification Administrative Change, Stabilizer Trim Control (Page 40)

No Charges or Credits

10. Change No. 205 - Portable CO₂ Bottle, Four Pound in Lieu of Five Pound (Page A-21)

No Charges or Credits

11. Change No. 210 - Specification Administrative Change, Static Selector Valves (Page 59)

No Charges or Credits

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JAN 28 '59

PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 24
 to
 HUGHES TOOL COMPANY
 Detail Specification Report No. ZD-22-002
 Dated 1 June 1956, Revised 7 September 1956

F. 12. Summary of the foregoing charges and/or credits:

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charges	\$ 76.00	\$ 2,280.00
Non-recurring Charges	<u>1,126.00</u>	<u>33,780.00</u>
Total Charges	<u>\$ 1,202.00</u>	<u>\$ 36,060.00</u>

G. The attached Specification Change Nos. 91B, 128B, 181, 188, 189, 191, 199A, 203, 204, 205, and 210 and Commercial Change Proposal Summary No. 23 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956

H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 24 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 23 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 23 is so executed by Hughes Tool Company, this Change Order No. 24 shall be considered in full force and effect. In the event said Change Order No. 23 is not so executed by Hughes Tool Company, this Change Order No. 24 shall be void and of no effect.

I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 21st day of January 1959.

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel

By C. G. Glasgow

Title Special Representative

Title Manager of Contracts

RECEIVED

JAN 28 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

ccps
#28

Sold to:	Hughes Tool Company Houston, Texas	Date:	27 January 1959
Reference:	(a) TWA letter, 880-861A-208, dated 22 January 1959 (b) Commercial Change Proposal No. 247 (c) MCL No. 10,318 (d) D.I.B. No. 4.010	SO No:	880-1-208
		WO No:	30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

DESIGNATION OF SERVICE INTERPHONE STATIONS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,318, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/17/59) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

WDW:be

Log No: 300

for WJWeller
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

NO. 174
22-1

Reference: (a). S. O. 880-1-208 dated 27 January 1959
(b). Commercial Change Proposal No. 247
(C). MCL No. 10,318

1. DESIGNATION OF SERVICE INTERPHONE STATIONS: (Specification Administrative Change)

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c)

2. DESCRIPTION OF CHANGE

Page 99, Paragraph 3.17 2.3.5 SERVICE INTERPHONE:

Revise the following items in interphone station list as follows:

From: "6. Forward and Aft Ends of Forward Cargo Compartment
7. Forward and Aft Ends of Aft Cargo Compartment"

To: "6. Hydraulic Compartment
7. Air-Conditioning Compartment"

3. This change has no effect on guaranteed weight empty, aircraft performance, delivery schedule, or contract price.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JSB:KVL:is


J. B. Bergstrom
Project Engineer

RECEIVED

FEB 6 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
28

Sold to: Hughes Tool Company Date: 23 January 1959
Houston, Texas SO No: 880-1-207

Reference: (a) TWA letter, 880-858A-206,
dated 20 January 1959 WO No: 30,000 Series
(b) Commercial Change Proposal No. 239
(c) MCL No. 10,363
(d) D.I.B. No. 4.010

CONVAIR 880 - HUGHES TOOL COMPANY

DUAL DISTANCE MEASURING EQUIPMENT TACAN, INSTALLATION OF

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,363, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exceptions:
- The item denoted Page 86, Paragraph 3.16.17 on Page 1 of the CCP has been revised to read "Distance Measuring Equipment Tacan (No. 1 Equipment)."
 - The item on Page A-5, Appendix I-C, on Page 2 of the CCP has been revised to read "2 Transponders, Federal, Type AFN-3544A."
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/13/59) per Reference (d).
- (3) This change results in a weight increase of 67 pounds per aircraft with no effect on delivery schedule or aircraft performance.

WDW:bc

Log No: 298

J. G. Glasgow
J. G. Glasgow
Manager of Contracts

L
C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

Revised 3 March 1959

No. 175
22-1

Reference: (a). S. O. 880-1-207 dated 23 January 1959
(b). Commercial Change Proposal No. 239
(c). MCL No. 10,363

1. DUAL DISTANCE MEASURING EQUIPMENT TACAN, INSTALLATION OF

TWA has accepted as evidenced by Reference (a), our Proposal, Reference (b), based upon Reference (c).

2. Specification shall be revised in accordance with Reference (b).

3. TASK IS AS FOLLOWS:

- A. Install (1) DMET Indicator in the pilot's and co-pilot's panel.
(Federal Type T8510-11M Single System presentation indicator)
- B. Instruments are interchangeable
- C. Install (1) black box in right-hand and left-hand shelf of radio rack.
(Federal Type AFM-3544A transponders)
- D. Remove cover plate and install #1 antenna (LB-147) on upper fuselage.
- E. Remove cover plate and install #2 antenna (LB-147) on lower fuselage.
- F. Bench check and pre-flight check equipment

This change results in a weight increase of 67 pounds per aircraft with no effect on delivery schedule or aircraft performance.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date. AMI's to be written one (1) week after receipt of these minutes. Engineering to be off board (5) five weeks after receipt of these minutes.

JSB:KVL:is

J. Bergstrom
J. S. Bergstrom
Project Engineer

RECEIVED

MAR 10 '59

PROJECT
SPEC.
GROUP

CONVAIR SAN DIEGO

SALES ORDER

Sold To: Hughes Tool Company
Houston, Texas

Date: 21 March 1960

Reference: (a) Job #130158

SO No: 880-1-206

WO No: 30,021 Series

INSTALLATION OF 6 KW HEATER IN BUILDING 37

- (1) This Sales Order authorizes the immediate installation of subject heater in that portion of Building 37 designated and especially constructed to serve as a Hughes Tool Company office.
- (2) The heater is to be installed per the special ground rules governing storage of fueled aircraft.

Rec'd /
DDA:kz

Log No: 883

J. Elshamers
for D. H. Digges
Manager of Contracts

CONVAIR-SAN DIEGO

SALES ORDER

eeps
+28

Sold to:	Hughes Tool Company Houston, Texas	Date:	22 January 1959
		SO No:	880-1-206
Reference:	(a) TWA letter, 880-856A-204, dated 19 January 1959 (b) Commercial Change Proposal No. 242 (c) MCL No. 10,317 (d) D.I.B. No. 4.010	WO No:	30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

PROVIDE ASSIST ROPES IN FLIGHT COMPARTMENT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,317, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
 - (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/12/59) per Reference (d).
 - (3) This change has no effect on guaranteed weight empty, airplane performance, delivery schedule, or contract price.

WDW & ba

Log No: 294

for W D Waller
C. G. Glasgow
Manager of Contracts

Fritz
JB

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

27 January 1959

No. 173
22-1

Reference: (a). S. O. 880-1-206 dated 22 January 1959
(b). Commercial Change Proposal No. 242
(c). MCL No. 10,317

1. PROVIDE ASSIST ROPES IN FLIGHT COMPARTMENT

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,317, Reference (c).

Description of Change:

Page 118 (Cont), Paragraph 3.19.6.3 - EVACUATION PROVISIONS:

Revise the first sentence as follows:

From: "Suitable means shall be provided for assisting rapid evacuation from emergency exits, including assist ropes at exits over the wing and at the forward main entrance door."

To: "Suitable means shall be provided for assisting rapid evacuation from emergency exits, including assist ropes at exits over the wing and over left and right hand windows in flight compartment. In addition, crew assist ropes shall be provided at the forward main entrance door."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JBB:JMC:is


J. S. Bergstrom
Project Engineer

RECEIVED

JAN 28 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

W. J. Brown

6-122

SALES ORDER

J. C. F.
CEPS
#28

Sold to: Hughes Tool Company
Houston, Texas

Date: 21 January 1959

SO No: 880-1-205

Reference: (a) TWA letter, 880-857A-205,
dated 19 January 1959
(b) Commercial Change Proposal No. 243
(c) MCL No. 10,354
(d) D.I.B. No. 4.010

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

PLACARDING OF COURSE DEVIATION INDICATOR

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, References (b), based upon MCL No. 10,354, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (2/11/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, airplane performance, delivery schedule, or contract price.

WDW:be

Log No: 289

W. D. Miller
for C. G. Glasgow
Manager of Contracts

RECEIVED

JAN 26 '59

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA Minutes
27 January 1959

No. 172
22-1

Reference: (a). S. O. 880-1-205 dated 21 January 1959
(b). Commercial Change Proposal No. 243
(c). MCL No. 10,354

1. PLACARDING OF COURSE DEVIATION INDICATOR

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,354, Reference (c).

Description of Change:

Page 56, Paragraph 3.14.1.1 PILOT'S INSTRUMENTS:

Change the ninth item in instrument list as follows:

From: "One flight path indicator"

To: "One course deviation indicator (placarded "flight path indicator")"

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Change the eighth item in instrument list as follows:

From: "One flight path indicator"

To: "One course deviation indicator (Placarded "flight path indicator")"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

JEB:JMC:is


J. S. Bergstrom
Project Engineer

RECEIVED

JAN 28 '59

PROJECT
SPEC.
GROUP

CONVAIR - SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 20 January 1959

SO No: 880-1-204

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 23

- (1) Attached is a copy of Change Order No. 23 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 19G on the Model 880 aircraft.

WDW:bs

Log No: 251

for W. J. Waller
C. G. Glasgow
Manager of Contracts

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach 2)
Commercial Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach 2)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co. (w/attach)
Change Order No. 23 File

RECEIVED

JAN 21 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCP 5
#27

Sold to: Hughes Tool Company
Houston, Texas

Dated: 8 January 1959
Revised: 10 February 1959
SO No: 880-1-203

References: (a) Commercial Change Proposal No. 226
(b) MCL No. 10,358
(c) D.I.B. No. 4.010
(d) TWA letter, 880-864A-209, dated
3 February 1959

WO No: 30,000 Series

HUGHES TOOL COMPANY - CONVAIR 880

CREW SUPPLEMENTAL OXYGEN MASK - CHANGE TO PURITAN TYPE

- (1) Hughes Tool Company has indicated its firm intention of accepting the subject CCP. In order to preclude factory and procurement delay, this Sales Order authorizes all departments concerned to proceed with the change outlined in Reference (a).
- (2) ~~The Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (.....) per Reference (a).~~
- (3) This Sales Order will be modified as necessary upon completion of contractual detail.
- (4) By Reference (d) Hughes Tool Company has accepted the subject CCP. This proposal results in an increase in the aircraft guaranteed weight empty of one pound and has no effect on performance, delivery schedule, or contract price.

Note CCP 226A reduces weight from 4 to 1 lb.

WDW:be

Log No: 167 421

*Rev. to add Ref (d), delete Para. (2),
and add Para. (4).

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

12 January 1959
Revised 12 Feb 1959 (KVL)

No. 171
22-1

Reference: (a). S. O. 880-1-203 dated 8 January 1959, Revised 10 Feb 1959
(b). Commercial Change Proposal No. 226
(c). MCL No. 10,358

1. Crew Supplemental Oxygen Mask-Change to Puritan Type
accepted

Hughes Tool Company has indicated its firm intention of accepting Reference (b) CCP. In order to preclude delay in procurement, Reference (a), Sales Order authorizes all concerned to proceed with this change.

Description of Change:

Page 118, Paragraph 3.19.5.5 MASKS:

In the first line, change "four" to "three".

Page A-18, APPENDIX I-C, OXYGEN SYSTEM:

Add the following item to the Description List:

"3 Oxygen Mask Assembly (Crew Supplemental)	Puritan	114020"
--	---------	---------

This change results in an increase in the guaranteed weight empty of ~~1/4~~ (one) 1 pound~~1/4~~ per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is


A. J. Savard
Project Engineer

RECEIVED

FEB 17 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS #
27

Sold to: Hughes Tool Company
Houston, Texas

Date: 6 January 1959

Reference: (a) TWA letter, 880-846A-199, dated
30 December 1958

(b) Commercial Change Proposal No. 237

(c) MCL No. 10,361

(d) D.I.B. No. 4.010

SO No: 880-1-202

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

INSTALLATION OF SPARE WIRING - CONDUIT

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,361, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/27/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty per aircraft of five pounds with no effect on airplane performance or delivery schedule.

John
WDW:be

Log No: 170

for Pharoah Baseland
C. G. Glasgow
Manager of Contracts

Sales Order 880-1-199

Not issued

D. F. S.

6-122

CONVAIR-SAN DIEGO

SALES ORDER

COPS

#27

Sold to: Hughes Tool Company
Houston, Texas

Date: 16 December 1958

SO No: 880-1-198

Reference: (a) TWA TWX, 880-839A-198, dated 12/12/58
(b) Commercial Change Proposal No. 222
(c) MCL No. 10,295
(d) D.I.B. No. 4.010

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

INCORPORATION OF AUDIBLE ALTITUDE WARNING SIGNAL

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,295, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/13/59) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of one pound with no effect on performance or delivery schedule.

RECEIVED

DEC 19 '58

PROJECT
SPEC.
GROUP

WWD:BC

Log No: 5561

for Thomas Gantland
C. G. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
18 December 1958

[Signature]

No. 167
22-1

Reference: (a) S.O. 880-1-198 dated 16 December 1958
(b) Commercial Change Proposal No. 222
(c) MCL No. 10,295

1. INCORPORATION OF AUDIBLE ALTITUDE WARNING SIGNAL

Hughes Tool Company has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 10,295, reference (c).

Description of Change:

Page 80, Paragraph 3.16.11.1 LANDING GEAR AND STABILIZER WARNING HORN:

Revise the paragraph title to read as follows:

"LANDING GEAR, STABILIZER AND CABIN ALTITUDE WARNING HORN."

Add the following sentence to the end of the paragraph:

"The warning horn shall also be utilized to give a warning signal in event of a cabin pressurization failure. A selector switch shall be provided to isolate the horn from the other systems when the alarm is actuated for cabin altitude warning only."

Page 125, Paragraph 3.20.3.1 PRESSURIZATION:

Add the following sentence to the end of the paragraph:

"An audible warning signal shall be provided to indicate a cabin pressurization failure, as defined in Paragraph 3.16.11.1."

This change results in a weight empty increase of one pound per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

[Signature]
A. J. Savard
Project Engineer

RECEIVED

DEC 19 '58

PROJECT
SPEC.
GROUP

H. G. Beeson 1-122

CONVAIR-SAN DIEGO

SALES ORDER

COPS
27

Sold to: Hughes Tool Company
Houston, Texas

Date: 5 December 1958

Reference: (a) TWA TWX, 880-825A-196, dated
5 December 1958

(b) Commercial Change Proposal No. 208

(c) MCL No. 10,281

(d) D.I.B. No. 4.010

SO No: 880-1-197

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

MACH TRIM PROVISIONS, KOLLMAN INTEGRATED FLIGHT INSTRUMENT SYSTEM CONTROL CHASSIS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,281, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/2/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, or delivery schedule.

WDW:bc

Log No: 5506

for James Garland RECEIVED
C. G. Glasgow
Manager of Contracts

DEC 8 '58

PROJECT
SPEC.
GROUP

W E Fitzsimmons

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
10 December 1958

No. 166
22-1

- Ref: (a) Sales Order No. 880-1-197 dated 5 December 1958
(b) Commercial Change Proposal No. 208
(c) MCL No. 10,281

- 1 Mach Trim Provisions, Kollsman Integrated Flight Instrument System Control Chassis

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,281, Reference (c).

The task is as follows:

- A. Kollsman to provide mach trim provisions in the Co-pilot static system computer module. The computer module to be interchangeable with the module presently installed in the pilot's system.
- B. As the co-pilot's mach trim provisions will not be connected, there will be no Convair task for wiring

Existing specification control drawing can be revised and a pre-release copy available three weeks after go-ahead.

ACTION: All concerned are directed to proceed with the incorporation of subject change

AJS:JMC:is

A. J. Savard
A. J. Savard
Project Engineer

RECEIVED

DEC 11 '58
PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

OEPS
#27

Sold to: Hughes Tool Company
Houston, Texas

Date: 6 January 1959

SO No: 880-1-201

Reference: (a) TWA letter, 880-847A-200, dated
29 December 1958
(b) Commercial Change Proposal No. 236
(c) MCL No. 10,359
(d) D.I.B. No. 4.010

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

COLLINS 416N-5 POWER SUPPLY

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,359, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/27/59) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, airplane performance, or delivery schedule.

NDW:bc

Log No: 150

John Thomas Fletcher
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

7 January 1959

No. 169
22-1

Reference: (a). S. O. 880-1-201 dated 6 January 1958
(b). Commercial Change Proposal No. 236
(c). MCL No. 10,359

1. COLLINS 416N-5 POWER SUPPLY

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,359, Reference (c).

Description of Change:

Page A-5, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Change the third item under "VHF NAVIGATION SYSTEM" as follows:

<u>From:</u>	"2 Power Supply (416N-5)	Collins	505-3706-013"
<u>To:</u>	"2 Power Supply (416N-5)	Collins	505-3706-003"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is

R. Savard
A. J. Savard
Project Engineer

RECEIVED

JAN 12 '59

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
#27

Sold to: Hughes Tool Company
Houston, Texas

Date: 6 January 1959

Reference: (a) TWA letter, 880-848A-201, dated
29 December 1958

(b) Commercial Change Proposal No. 234

(c) MCL No. 10,360

(d) D.I.B. No. 4.010

SO No: 880-1-200

WO No: 30,000 Series

CONVAIR 880 - HUGHES TOOL COMPANY

HF COMMUNICATION EQUIPMENT, CHANGE FROM INSTALLATION TO PROVISIONS

- (1) Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,360, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (1/27/59) per Reference (d).
- (3) This change results in a decrease in the guaranteed weight empty of the aircraft of 86 pounds with no effect on airplane performance or delivery schedule.

WDW:be

Log No: 149

Thomas S. Corland
C. G. Glasgow
Manager of Contracts

Jiby

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

7 January 1959

No. 168
22-1

- Reference (a). S. O. 880-1-200 dated 6 January 1958
(b). Commercial Change Proposal No. 234
(c). MCL No. 10,360

1. HF Communication Equipment, Change from Installation to Provisions

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,360, Reference (c). A copy of the proposal is attached.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

This change results in a decrease in the airplane weight empty of 86 pounds per airplane.


A. J. Sevard
Project Engineer

AJS:JMC:is

RECEIVED

JAN 12 '59

PROJECT
SPEC.
GROUP

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA TWX, 880-823A-193, dated
1 December 1958
(b) CCP No. 228, MCL No. 10,306
(c) CCP No. 232, MCL No. 10,310
(d) CCP No. 231, MCL No. 10,309
(e) CCP No. 230, MCL No. 10,308
(f) CCP No. 97B, MCL No. 10,137
(g) CCP No. 104B, MCL No. 10,155
(h) CCP No. 142, MCL No. 10,175
(i) TWA letter, 880-829A-197, dated 12/5/58

"Revised: 8 January 1959
Date: 3 December 1958
"Revised: 22 December 1958
SO No: 880-1-196

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

PASSENGER SEAT PROPOSALS

- (1) Hughes Tool Company has allowed our proposal, Reference (h), "Customer Furnished Passenger Seats," to expire. Accordingly, Convair will provide the passenger seats in the Hughes Tool Company Model 880 aircraft.
- (2) Incidental to selecting the Convair proposed seat, Hughes Tool Company has accepted proposals (b) through (g) with certain modifications. Accordingly, all departments are directed to proceed with the changes outlined in References (b) through (g) with modifications as set forth below.

a. CCP No. 231 - Muslin Sub-Covers

This proposal is modified to reflect installation of muslin sub-covers on the seat backs only, the cover to be glued rather than slipcover. The weight increase is to be 22 pounds per airplane rather than 36 pounds.

b. CCP No. 97B - Integral Folding Food Trays

Per Reference (i) TWA has approved a weight increase of 148 lbs. which Hughes Tool Company does not desire, at this time, the cover prints for the inboard and rear row of seats. Accordingly, the weight increase of 148 pounds shown in CCP 97B is hereby reduced to 145 pounds. This includes the weight of cover panels on the rear row seats.

- (3) Acceptance of these proposals results in an increase in the guaranteed weight empty of the airplane as set forth below.

a.	CCP No. 228 - Stewardess Step	29 lbs.
b.	CCP No. 232 - Adjustable Head Rest	162 lbs.
c.	CCP No. 231 - Muslin Sub-Covers	22 lbs.
d.	CCP No. 230 - Crash Energy Absorber	44 lbs.
e.	CCP No. 97B - Integral Folding Food Trays	148 145 lbs.
f.	CCP No. 104B - 32 Inch Seat	83 lbs.

488

Total Weight Per Aircraft ~~145~~ lbs.

Hughes Tool Company
Houston, Texas

^aRevised: 8 January 1959
Initial: 3 December 1958
^bRevised: 22 December 1958
SO No.: 880-1-196

- (a) TWA T.S.C. 880-823A-195, dated
1 December 1958
 b. GCP No. 228, MCL No. 10,306
 c. GCP No. 232, MCL No. 10,310
 d. GCP No. 231, MCL No. 10,309
 e. GCP No. 230, MCL No. 10,308
 f. GCP No. 97B, MCL No. 10,177
 g. GCP No. 101B, MCL No. 10,155
 h. GCP No. 142, MCL No. 10,175
 (1) TWA letter, 880-829A-197, dated 12/5/58

W.O. Nos. 30,000 Series

MODEL 880 - HUGHES TOOL COMPANYPASSENGER SEAT PROPOSALS

(1) These proposals have no effect on aircraft performance or delivery schedule.

(2) Variations to the passenger seat shown to Hughes Tool Company in Kansas City on 1 December 1958 shall be in accordance with their comments submitted by their message, 12-1, of 1 December 1958, with exceptions as set forth in Paragraph (4).

(3) Company has obligated itself to certain price schedules for coach seats, option conversion kits, licensing of our subcontractor to sell spare parts directly to the customer, and certain other incidentals of the passenger seat program. These matters will be handled by separate correspondence with departments concerned.

Follow, to corrected prices in Para. (7)

*Rev. to add Ref. (1) and rev.
Para. (2)(b), and Para (3)

for Hughes Tool Co.
C. C. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

4 December 1958

Revised 24 December 1958

No. 164
22-1

- Reference: (a) S.O. 880-1-196 dated 3 December 1958, revised 22 December 1958
(b) Commercial Change Proposal No. 228, MCL No. 10, 306
(c) CCP No. 232, MCL No. 10, 310
(d) CCP No. 231, MCL No. 10, 309
(e) CCP No. 230, MCL No. 10, 308
(f) CCP No. 97B, MCL No. 10, 137
(g) CCP No. 104B, MCL No. 10, 155
(h) CCP No. 142, MCL No. 10, 175

1. PASSENGER SEAT PROPOSALS

- A. Hughes Tool Company has allowed our Proposal, reference (h), "Customer Furnished Passenger Seats", to expire. Accordingly, Convair will provide the passenger seats in the Hughes Tool Company Model 22 aircraft.
- B. Hughes Tool Company has accepted, as evidenced by reference (a), our proposals (b) through (g), with modification as set forth below:

1) CCP No. 231 - Muslin Sub-Covers

This proposal is modified to reflect installation of muslin sub-covers on the seat backs only, the cover to be glued rather than slipcover. The weight increase is to be 22 pounds per airplane rather than 36 pounds.

2) CCP No. 97B - Integral Folding Food Trays

Our reference (a) has approved a weight increase of 148 lbs. which Hughes Tool Company does not desire, at this time, the cover plate for the inboard aft row of seats. Accordingly, the weight increase of 148 pounds shown in CCP 97B is hereby reduced to 145 pounds.
including the weight of cover panels on the rear row seats.

- C. Acceptance of these proposals results in an increase in the guaranteed weight empty of the airplane as set forth below.

1)	CCP No. 228 - Stewardess Step	29 lbs.
2)	CCP No. 232 - Adjustable Head Rest	162 lbs.
3)	CCP No. 231 - Muslin Sub-Covers	22 lbs.
4)	CCP No. 230 - Crash Energy Absorber	44 lbs.
5)	CCP No. 97B - Integral Folding Food Trays	145 lbs. 148 lbs.
6)	CCP No. 105B - 52 Inch Seat	83 lbs.

Total Weight Per Aircraft 485 lbs. 488 lbs.

- D. Revisions to the passenger seat shown to Hughes Tool Company in Kansas City on 21 November 1958 shall be in accordance with their comments submitted by their message, 12-1, of 1 December 1958, with exceptions as set forth in reference (a).

RECEIVED

ACTION: All concerned are authorized to proceed with the above task in accordance with the attachment to these minutes.

DEC 31 '58

PROJECT
SPEC.
GROUP


A. J. Savard, Project Engineer

5 December 1958

ATTACHMENT TO TWA MINUTES #164
Model 22-1
(Cabin Passenger Seats and Related CCP's)

The design must incorporate all items contained in the memo, Project Office to Furnishings Group, (Mallinger/Beckett) dated 28 November 1958, "Design Revisions to Cabin Passenger Seats Prior to Production Engineering Model 22." Customer comments in accordance with Item 1D of the TWA Minutes #164 from TWA message 12-1 dated 1 December 1958 are as follows. Where there may be a conflict between the TWA memo and the Project Office memo, the TWA memo shall have priority. Project Office comments are contained in parenthesis beside the conjectural items noted below:

Under MCL 10,310 the Furnishings Group has 300 hours which shall be used to lay out the revision to the adjustable head rest in order to meet CAA delethalization requirements in addition to providing full time coordination during the seating vendor's production engineering program. It is absolutely mandatory that no delays to production engineering be incurred which could be chargeable to Convair's Engineering Department. The production engineering phase is scheduled for completion 60 calendar days subsequent to 8 December 1958.

The TWA comments follows

A. CUSHIONS

1. Seat cushioning material should be interchangeable in all bottoms however, Item 2 will make assemblies non-interchangeable.
2. Seat upholstery to have leading and outside flaps to fasten under seat for more luxurious appearance, and to regain thickness and undercut appearance.
3. Relocate snaps towards aft end of seat cushion.
4. Use cushion density comparable to that obtained with laminated sample. Add more material where leading edge of structure is lowered.

B. ASHTRAYS

1. Revise ashtray so that cover is essentially flush with armrest cap, but cover should not be part of ash receiver.
2. Make snuffer shallow.
3. Add cigarette support.

C. ARMRESTS

1. Bolteron side panels preferred, but should be mechanically retained. Place screw heads under armrest cap and on bottom side. Install thin piece of padding to insure fit and prevent chatter.
2. Attaching key slots for cap should be on top rather than sides.
3. Decrease armrest length 2".
4. Center armrest forward bayonet should be same length as rear one to facilitate insertion (to be negotiated with Customer).
5. Increase diameter of plastic control cable housing.

D. STRUCTURE

1. Aft Bolteron torque tube covers should be attached mechanically and self-supporting over entire area. (Methyl shall be used).
2. Diagonal leg brace should be square tube rather than channel to prevent shoe scuffing (Accomplish intent only).
3. Recline mechanism mount bushings should be press fit with better alignment.

- D. STRUCTURE (cont.)
 - 4. Recline cable ends should be solder dipped to prevent fraying.
 - 5. Lower the leading edge of seat structure one-quarter inch.
- E. UPHOLSTERY
 - 1. Eliminate seams on armrest cover (to be negotiated with Customer).
 - 2. All upholstery covers should be interchangeable except for seat flaps and back flap.
 - 3. Add glove snap in center of back above table latch for head rest cover retention.
- F. TRIM
 - Stiffen leg fairing
- G. INTERNAL FOOD TRAY
 - 1. Delete glass holder depression in the surface of tray and install pull-out glass holder. (CCP required for pull-out holder)
 - 2. Redesign trailing edge of tray in down position so that lip is continuous and cutout for latch is aft of lip.
 - 3. Lighten latch closing load.
- H. MISCELLANEOUS
 - 1. Sewn-in head rest pillow is preferred. (Not applicable - see CCP 232)
 - 2. Eliminate pip-pin retainer strap.
 - 3. Request right to make minor changes after production seat review.
(To be negotiated to quality inspection only).
- I. Acceptance of energy absorber would be based on Convair fully developing a satisfactory device. Such device to be tested on full scale seats using dummies and development to continue on other devices should seat belt extention prove impractical. (No other devices offered than seat belt attachment) (Test program to be resolved by Project Office & Structures).

NELL:je

Prepared by


H. A. Mellinger

5 December 1958

R. Frost/R. Benson

A. J. Seward

Deletion of Trim Closing Panel on Aft Seat Row TWA Model 22-1

Ref: (a) Telescon Willis to Spannuth on 3 December 1958 same subject.

(b) MCL #137

(c) TWA CCP 97-B "Integral Folding Food Trays"

(d) Wise TdA to Convair dated 4 December 1958

(e) Memo, Seward to F. Frost/R. Benson, 3 December 1958, same subject

By Reference (d) TWA rescinded their request of Reference (a). Therefore, all action with regard to Reference (d) shall be cancelled and the originally accepted 148 lb. weight increase for TWA CCP 97-B "Integral Folding Food Tray" shall be retained. The design shall incorporate two closing panels per airplane, one on each inboard seat place of the aft seat row. All concerned are cautioned that no closing panel nor food tray shall be installed on either outboard seat place of the aft row. All food tray provisions, however, shall be made for the aft row.

ASS:HELI:is

cc: V. Shandera
W. Fitzsimons
J. Gnas
J. Hoover/L. Beckett
R. Albers
H. Harris
T. W. Minutes of CCP 97-B


for A. J. Seward
Project Engineer

CC
#21

CONVAIR-SAN DIEGO

SALFS ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 1 December 1958

SO No: 880-1-195

Reference: (a) TWA letter, 880-817A-193, dated
25 November 1958
(b) Commercial Change Proposal No. 186
(c) MCL No. 10,257
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE - ELEVATORS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,257, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/29/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

RECEIVED

DEC 5 '58

PROJECT
SPEC.
GROUP

WDW:HC

Log No: 5471

Jov W D Wallin
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

Fitz

TWA MINUTES

12 January 1959

No. 170
22-1

- Reference: (a). S. O. 880-1-202 dated 8 January 1959
(b). Commercial Change Proposal No. 237
(c). MCL No. 10,361

1. Installation of Spare Wiring - Conduit

Hughes Tool Company has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL 10,361, Reference (c).

Description of Change:

Page 68 (Cont). Paragraph 3.16.5.6.1 - Conduit Location:

Add the following to the end of the paragraph:

"Two sections of one inch rigid conduit, each approximately 12 feet long, shall be installed below the cabin floor (and attached by clips to floor beams) between the front spar and the aft main wheel well to permit future routing of new wiring without removing cabin seats and floor panels."

This change results in an increase in the airplane empty weight of 5 lbs. per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is

A. J. Savard
A. J. Savard
Project Engineer

RECEIVED

JAN 14 '59

PROJECT
SPEC.
GROUP

W.S. Fitzsimmons

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
10 December 1958

No. 165
22-1

- Ref: (a) Sales Order 880-1-195 dated 1 December 1958
(b) Commercial Change Proposal No. 186
(c) MCL No. 10,257

1. Specification Administrative Change-Elevators

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,257, reference (c).

Description of Change:

Page 24, Paragraph 3.6.3 ELEVATORS:

Delete the words "interconnected and" in the second line of the first sentence.

ACTION: All concerned are directed to proceed with the incorporation of subject change. Specification Group will forward revised specification pages to the Contracts Department within four weeks of Sales Order date.

A. J. Seward
A. J. Seward
Project Engineer

AJS:HMC:is

RECEIVED

DEC 11 '58
PROJECT
SPEC.
GROUP

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA TWI, 880-319A-194, dated 25
November 1958
(b) Customer Avail Change Proposal No. 224
(c) MEL No. 10,285
(d) D.I.B. No. 4,010
(e) Convair TWX dated 14 April 1960
(f) TWA TWI 880-1304A-320 dated 15 April 1960

Date: 26 November 1958
Revised: 18 April 1960
SO No: 880-1-194

WO No: 30,000 Series

MODEL 880 - TWA

INSTALLATION OF LOWER LINE REFERENCE ON POLAR PATH COMPASS FLUX GATE

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MEL No. 10,285, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification papers to the Contracts Department within four weeks (12/26/58) per Reference (b).
- (3) This change will be incorporated on ~~27~~²⁹ TWA Model 880 aircraft (Airplane Nos. ~~32~~³¹ through ~~32~~³¹) with no effect on guaranteed weight empty, performance, or delivery schedule.

5442 1292

Revised: To add five (5) additional
aircraft per Ref. (e) & (f) - 4/18/60
4/18

J. W. Morris, Jr., Vice President
C. C. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
Revised 25 April 1960
1 December 1958

No. 163
22-1

Reference: (a) S. O. 880-1-194 dated 26 November 1958, Rev. 18 April 1960
(b) Commercial Change Proposal No. 224
(c). MCL No. 10,285

1. Installation of Lubber Line Reference on Polar Path Compass Flux Gate.

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,285, Reference (c).

DESCRIPTION OF CHANGE:

Page 59, Paragraph 3.14.3.4.1 FLUX VALVE:

Revise the paragraph title and paragraph to read as follows:

"3.14.3.4.1 FLUX GATE: Two flux gate units shall be installed in one wing tip area with an access door on upper wing surface. The flux gate mounting brackets shall be designed to preclude deviation errors resulting from improper positioning of the flux gate unit. A centered arrow pointer (lubber line), inscribed on a small metal plate, shall be provided to indicate the relationship of the flux gate to the longitudinal axis of the airplane. Flux gate mounting and environment shall be such that the units will not be subjected to vibration or shock loads to a degree which would permit deterioration under all normal operating conditions. The installation shall be designed to preclude undue deterioration of the flux gate units as a result of vibration levels to be encountered in this area under normal operating conditions."

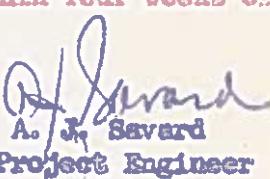
29

This change will be incorporated on-24-TWA Model 22 Aircraft (Airplane Nos.-7-through-30).

3 31

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:EMC:is


A. J. Savard
Project Engineer

JB 5-4

RECEIVED

MAY 6 '60

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

SO No: 880-1-193

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

AMENDMENT NO. 3

- (1) Attached is a copy of Amendment No. 3, executed 20 November 1958, to the Hughes Tool Company Purchase Agreement, executed 10 September 1956.
- (2) This Amendment No. 3 has no effect on contract price.
- (3) The date of delivery of the parts provisioning list has been changed from 31 March 1958 to 1 March 1958.

WDW:BC

Log No: 5422

for W D Waller
C. G. Glasgow
Manager of Contracts

cc: E. Burke (w/excc. copy)
880 Project Office (w/attach)(2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
L. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co (w/attach)
Amendment No. 3

AMENDMENT NO. 3

TO

PURCHASE AGREEMENT BY AND BETWEEN

GENERAL DYNAMICS CORPORATION
(Convair Division)

AND

HUGHES TOOL COMPANY

Dated 20 November 1958

THIS AGREEMENT (hereinafter called "Amendment No. 3") entered into this
20th day of November 1958, by and between GENERAL DYNAMICS
CORPORATION, A Delaware Corporation, having an office (Convair Division) in
San Diego, California (hereinafter called "CONVAIR"), and HUGHES TOOL COMPANY,
with its general offices at Houston, Texas (hereinafter called "Buyer"):

W I T N E S S E T H:

WHEREAS, Buyer and CONVAIR have entered into a Purchase Agreement dated 10 September 1956, relating to the purchase and sale of thirty (30) Model 880 Convair aircraft; and

WHEREAS, Buyer and CONVAIR desire to amend said AGREEMENT to change the date upon which CONVAIR is contractually bound to deliver the list of parts now provided for in Article 4(a) of said Purchase Agreement:

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties hereto agree to amend the AGREEMENT as follows:

1. By deleting the first sentence of Article 4(a) and substituting the following therefor:

(a) Initial Spare Parts Procurement. As soon as possible, and in no event later than ¹ March 1959, unless extended by mutual agreement by Buyer and CONVAIR, CONVAIR shall furnish Buyer a list of the parts for the Aircraft which are manufactured by CONVAIR or according to CONVAIR's design and which are considered appropriate by CONVAIR for purchase as Spare Parts. RWR/TBE

2. This Amendment No. 3 shall not be varied in its terms by any oral agree-

ment or representation or otherwise than by an instrument in writing of
even or subsequent date hereto, executed by both parties by their officers
thereunto duly authorized.

3. This Amendment No. 3 shall be construed in accordance with the laws of
the State of California.
4. Except as amended hereby, all terms and conditions of the Agreement shall
remain in full force and effect.

Executed in quadruplicate as of the day and year first above written.

GENERAL DYNAMICS CORPORATION

BY Thomas B. Eastland, Jr.

TITLE Chief of Contract Administration
Convair Division

Attest:

HUGHES TOOL COMPANY

BY R. W. Rummel

TITLE Special Representative

Attest:

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

SO No: 880-1-192

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 22

- (1) Attached is a copy of Change Order No. 22 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 133A, 182, 184, 190, 195, 196, 198, and ~~22C~~ on the Model 880 aircraft.

180

WDW:BC

Log No: 5420

RECEIVED

NOV 26 '58

PROJECT
SPEC.
GROUP

frt W D Wallace
F. G. Glasgow
Manager of Contracts

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach2)
Comm. Sales (w/attach)
H. A. Hayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 22 (w/attach)

CHANGE ORDER NO. 22
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 133A, 182, 184, 190, 195, 196, 198 and 224 and Commercial Change Proposal Summary No. 21 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 21 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 21 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 133A - Specification Administrative Change Power Plant Items (Pages 45, 46, 47 and 53)	No charges or credits										
2. Change No. 180 - Landing Flares, Deletion of Page A-19)	<table><thead><tr><th>Per Airplane</th><th>Total for 30 Airplanes</th></tr></thead><tbody><tr><td>\$ 128.00</td><td>\$ 3,840.00</td></tr><tr><td>14.00</td><td>420.00</td></tr><tr><td><u>Total Credits</u></td><td><u>\$ 114.00</u></td></tr><tr><td></td><td><u>\$ 3,420.00</u></td></tr></tbody></table>	Per Airplane	Total for 30 Airplanes	\$ 128.00	\$ 3,840.00	14.00	420.00	<u>Total Credits</u>	<u>\$ 114.00</u>		<u>\$ 3,420.00</u>
Per Airplane	Total for 30 Airplanes										
\$ 128.00	\$ 3,840.00										
14.00	420.00										
<u>Total Credits</u>	<u>\$ 114.00</u>										
	<u>\$ 3,420.00</u>										
3. Change No. 182 - Supplementary Fluorescent Lighting (Page 74)	No charges or credits										
4. Change No. 184 - Specification Administrative Change Check-off List (Page 111)	No charges or credits										
5. Change No. 190 - Specification Administrative Change Relocation of Water Fire Extinguishers (Page 116)	No charges or credits										

CHANGE ORDER NO. 22
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

6. Change No. 195 - Landing Flare Provisions, Deletion of
(Pages 73, 110 and A-19)

Recurring Credits
Non-Recurring Charges

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
	\$ 444.00	\$ 13,320.00
	<u>306.00</u>	<u>9,180.00</u>

Total Credits

\$ 138.00 \$ 4,140.00

7. Change No. 196 - Specification Administrative Change
Emergency Brake System Air Bottle (Page A-8)

No charges or credits

8. Change No. 198 - Copilot's Clock, Change to

Recurring Charges
Non-Recurring Charges

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
	\$ 98.00	\$ 2,940.00
	<u>181.00</u>	<u>5,430.00</u>

Total charges

\$ 279.00 \$ 8,370.00

9. Summary of the foregoing charges and/or credits:

Recurring Credits
Non-Recurring Charges

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
	474.00	14,220.00
	<u>501.00</u>	<u>15,030.00</u>

Total charges

\$ 27.00 \$ 810.00

G. The attached Specification Change Nos. 195A, 196, 197, 198, 199, 199A, 199B, 199C and 199D and Commercial Change Proposal Summary No. 21 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.

H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 22 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Orders Nos. 20 and 21 as said Change Orders were executed by General Dynamics Corporation. In the event that said Change Orders Nos. 20 and 21 are so executed by Hughes Tool Company, this Change Order No. 22 shall be considered in full force and effect. In the event said Change Orders Nos. 20 and 21 are not so executed by Hughes Tool Company, this Change Order No. 22 shall be void and of no effect.

I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 20th day of November 1958

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By Thomas B. Eastland, Jr.

Title Chief of Contract Administration
Convair Division

CONVAIR - SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

SO No: 880-1-191

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 21

- (1) Attached is a copy of Change Order No. 21 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 on the Model 880 aircraft.
- (2) The latest revision of the smoke mask part number on Page A18 of the revised specification pages is 6849-5.

WDW:BC

Log No: 5421

Frank Whaler
C. C. Glasgow
Manager of Contracts

RECEIVED

NOV 26 '58

PROJECT
SPEC.
GROUP

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whaler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts (w/attach)
Arthur Anderson & Co.
Change Order No. 21. (w/attach)

CHANGE ORDER NO. 21
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 and Commercial Change Proposal Summary No. 20 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 20 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 20 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 21A - Fuel System, Change from Pressure to Non-Pressurized System (Pages 47, 48, 49, 50, 51, 52, 52A, 53, 54, 57, 64, 83, 85, and A-24)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Credit	\$ 211.00	\$ 6,330.00
Non-Recurring Credit	100.00	3,000.00
Total Credits	\$ 311.00	\$ 9,330.00

CHANGE ORDER NO. 21
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

- F. 2. Change No. 57A - Increase of Landing Weight to 130,000 Pounds (Pages 12, 19, and A-13)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 1,690.00	\$ 50,700.00
Non-Recurring Charge	None	None
 Total Charges	 <u>\$ 1,690.00</u>	 <u>\$ 50,700.00</u>

3. Change No. 115A - Structural Provisions for Overwater Operations (Page 25)

No Charges or Credits

4. Change No. 154 - Titanium Cowling, Door Skins and Frames (Page 43)

No Charges or Credits

5. Change No. 171A - Stabilizer Trim Control Electric Drive Capability (Pages 40 and 83)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 2,396.00	\$ 71,880.00
Non-Recurring Charge	<u>723.00</u>	<u>21,690.00</u>
 Total Charges	 <u>\$ 3,119.00</u>	<u>\$ 93,570.00</u>

6. Change No. 173~~1~~- Lavatory Towel Dispenser, Addition of (Pages 109 and A-14)

No Charges or Credits

7. Change No. 174 - Portable Oxygen Cylinder Assemblies, Revision to (Pages 118 and A-18)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 31.00	\$ 930.00
Non-Recurring Charge	<u>29.00</u>	<u>870.00</u>
 Total Charges	 <u>\$ 60.00</u>	<u>\$ 1,800.00</u>

CHANGE ORDER NO. 21
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

- F. 8. Change No. 175 - Passenger Cabin
Oxygen Cylinders, Relocation of
(Page 118)

No Charges or Credits

9. Change No. 178 - Turn and Bank
Indicator, Revision to (Page A-10)

No Charges or Credits

10. Summary of the foregoing charges
and/or credits:

	<u>Per Airplane</u>	<u>Total for</u> <u>30 Airplanes</u>
Recurring Charges	\$ 3,906.00	\$ 117,180.00
Non-Recurring Charges	<u>652.00</u>	<u>19,560.00</u>
Total Charges	<u>\$ 4,558.00</u>	<u>\$ 136,740.00</u>

- G. The attached Specification Change Nos. 21A, 57A, 115A, 154, 171A, 173, 174, 175, and 178 and Commercial Change Proposal Summary No. 20 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.

- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 21 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 20 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 20 is so executed by Hughes Tool Company, this Change Order No. 21 shall be considered in full force and effect. In the event said Change Order No. 20 is not so executed by Hughes Tool Company, this Change Order No. 21 shall be void and of no effect.

- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 20th day of November 1958

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By B. Coggan

Title Vice President - Convair Division

CONVAIR-SAN DIEGO

SALES ORDER

COPS
#25

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

Reference: (a) TWA letter, 880-809A-190, dated
20 November 1958
(b) Commercial Change Proposal No. 225
(c) MCL No. 10,353
(d) D.I.B. No. 4.010

SO No: 880-1-190

WO No: 30,000 Series

MODEL 880 - TWA

REVISION TO ATC TRANSPONDER PANEL

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,353, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, or delivery schedule.

WDW:BC

Log No: 5425

RECEIVED

for *Thomas Hardin*
C. C. Glasgow
Manager of Contracts

DEC 1 '58
PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

1 December 1958

No. 162
22-1

Reference: {a} S. O. 880-1-190 dated 25 November 1958
{b} Commercial Change Proposal No. 225
(c) MCL No. 10,353

1. Revision to ATC Transponder Panel.

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,353, Reference (c).

Description of Change:

Page A-7, APPENDIX I-C, ELECTRONIC EQUIPMENT:

Change the sixth item under "CONTROL PANELS" as follows:

From: "1 ATC Transponder Beacon Cables G-554"

To: "1 ATC Transponder Beacon Cables G-554V"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is


A. J. Sevard
Project Engineer

RECEIVED

DEC 3 '58

PROJECT
SPEC
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

ee75
#25

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

SO No: 880-1-189

Reference: (a) TWA letter, 880-800A-185, dated
17 November 1958
(b) Commercial Change Proposal No. 217A
(c) MCL No. 10,303
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWA

CAR AMENDMENT 4B-9

(1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,303, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exception:

Under Paragraph 2.1, Page 8, "APPLICABLE FEDERAL REGULATIONS" delete the words "4b-8 (not applicable)" from the subject Commercial Change Proposal.

- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change results in an increased weight per airplane of six pounds with no effect on aircraft guaranteed performance, delivery schedule, or contract price.

WDW:BC

Log No: 5433

for W.W. Weller
C. G. Glasgow
Manager of Contracts

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DEC 1 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

1 December 1958

No. 161
22-1

Reference: (a) S. O. 880-1-189 dated 25 November 1958
 (b) Commercial Change Proposal No. 217A
 (c) MCL No. 10,303

1. CAR Amendment 4b-9

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,303, Reference (c).

Description of Change:

Page 8, Paragraph 2.1, APPLICABLE FEDERAL REGULATIONS:

Delete the following from the end of the last item in the amendment list:

"; and"

Add the following items to the amendment list:

4b-9 adopted 27 August 1958; and"

Page 118, Paragraph 3.19.5.4 INDIVIDUAL OUTLETS:

Change the third sentence to read as follows:

"Two oxygen outlets shall be provided in each lavatory."

This change results in an increased weight of six pounds per aircraft.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJB:JMC:is


A. J. Sevard
Project Engineer

RECEIVED

DEC 3 '58

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
#125

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

Reference: (a) TWA letter, 880-801A-186, dated
18 November 1958
(b) Commercial Change Proposal No. 227
(c) MCL No. 10,305
(d) D.I.B. No. 4.010

SO No: 880-1-188

WO No: 30,000 Series

MODEL 880 - TWA

TEMPERATURE MEASUREMENT PLANE ILLUSTRATION.

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,305, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:BC

Log No: 5431

W. W. Miller
for C. G. Glasgow
Manager of Contracts

RECEIVED

DEC 1 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

1 December 1958

No. 160
22-1

Reference: {a} S. O. 880-1-188 dated 25 November 1958
{b} Commercial Change Proposal No. 227
{c} MCL No. 10,305

1. Temperature Measurement Plane Illustration

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,305, Reference (c).

Reason for Change: To incorporate Figure 3.20-5 into Specification.

Description of Change:

Page 120, Paragraph 3.20.1.3.1 TEMPERATURE VARIATION:

In the second sentence, change "Figure 3.19-11" to "Figure 3.20-5"

Action: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:16


A. J. Sevard
Project Engineer

RECEIVED

DEC 3 '58

PROJE T
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
TP 25

Sold to: Hughes Tool Company
Houston, Texas

Date: 25 November 1958

Reference: (a) TWA letter, 880-798A-183, dated
17 November 1958
(b) Commercial Change Proposal No. 212
(c) MCL No. 10,290
(d) D.I.B. No. 4.010

SO No: 880-1-187

WO No: 30,000 Series

MODEL 880 - TWA

INSTALLATION OF PROVISIONS FOR VG RECORDER

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,290, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/23/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:bc

Log No: 5432

for W J Willis
C. G. Glasgow
Manager of Contracts

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DEC 1 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

1 December 1958

No. 159
22-1

Reference: { (a) S. O. 880-1-187 dated 25 November 1958
{ (b) Commercial Change Proposal No. 212
(c) MCL N. 10,290

1. Installation of Provisions for VG Recorder

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based upon MCL No. 10,290, Reference (c).

Description of Change:

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.10 VG RECORDER PROVISIONS: Provisions shall be made for the later installation of one VG recorder on each of four airplanes*. The VG recorder provisions shall be installed at the approximate center of gravity of the airplane in bottom of the fuselage aft of the rear spar. The provisions shall include mounting, and tubing from the pitot and static lines connecting to the flight recorder (see paragraph 3.14.3.8). Means shall be provided for capping these lines when VG recorder is not installed."

Add the following footnote to the bottom of the page:

"*The specific airplanes on which the VG recorder provisions shall be installed will be TWA Airplanes 14, 15, 16 and 17."

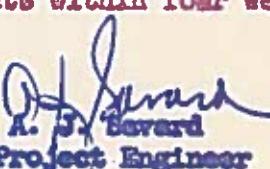
Not to be part of the Specification language:

"The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the affected airplanes and is not to be included in the accumulative Specification weight figures.

Effect on Weight: + 1.0 pound

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is


A. J. Seward
Project Engineer

RECEIVED

DEC 3 '58

PROJECT
SPEC.
GROUP

Sold to: Hughes Tool Company
Houston, Texas

Date: 17 November 1958

Reference: (a) TWA letter, 880-775A-177, dated
17 October 1958

SO No: 880-1-186

(b) Commercial Change Proposal No. 170

WO No: 30,000 Series

(c) MCL No. 10,206

(d) D.I.B. No. 4.010

MODEL 880 - TWACABIN INTERIOR MODIFICATIONAND INSTALLATION OF A 12 PLACE CLUB AREA

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,206, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) with the following exceptions:

Page 1 of 5Page 1 - INTRODUCTION:

Item revised to read "In eighth line of first paragraph, change '80 to 108' to '84 to 110.'

Page 14, Paragraph 3.1.2.2 - LOADING SUMMARY:

Second item revised to read "Under 'Payload 2 change' (108 passengers)' to '(110 passengers).'"

Add: "Change payload from 26,450 pounds to 26,780 pounds."

Page 2 of 5Page 105, Paragraph 3.19.1.1.4 - LOUNGE SEATS:

Add: "All seats shall be CAA approved for occupancy during takeoff and landing."

Page 3 of 5Page 114, Paragraph 3.19.3.6 - HAT RACKS:

Revise the last sentence of the paragraph to read: "A door or doors shall be provided for each bin capable of containing stowed loads of one pound per lineal inch under CAA crash load conditions."

RECEIVED

NOV 19 '58

PROJECT
SPEC.
GROUP

CONTINUED ON PAGE TWO

PAGE TWO

Sold to: Hughes Tool Company
Houston, Texas

Date: 17 November 1958

SO No: 880-1-186

Reference: (a) TWA letter, 880-775A-177, dated
17 October 1958
(b) Commercial Change Proposal No. 170
(c) MCL No. 10,206
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWACABIN INTERIOR MODIFICATIONAND INSTALLATION OF A 12 PLACE CLUB AREA

(1) (Continued)
Page 3 of 5

Page 129, Paragraph 3.23.2 - EQUIPMENT INTERCHANGEABILITY:

This item deleted from change proposal.

Page A3, APPENDIX I-C, ELECTRICAL SYSTEM:

This item deleted from change proposal.

Page 4 of 5

The item reading "Delete sixth item Window Curtains - 7.5 oz. has been relocated to Page A-15, Appendix I-C - Furnishings, since this is the page covering this item in the specification.

- (2) A Change Order incorporating this proposal only is to be forwarded to the Contracts Department at the earliest possible date.
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 324.8 pounds with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

- (4) This change results in an increased price per aircraft of \$4,000, all recurring costs, for a total contract increase of \$120,000.

WDW:BC

Log No: 5364

for Thomas S. Anderson
C. G. Glasgow
Manager of Contracts

B
Z

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
25 November 1958

No. 155
22-1

Referenced: (a) S.O. 880-1-186 dated 17 November 1958
(b) Commercial Change Proposal No. 170
(c) MCL No. 10,206

1. CABIN INTERIOR MODIFICATION AND INSTALLATION OF A 12-PLACE CLUB AREA

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 10,206, reference (c), with the following exceptions to reference (b) proposal.

Page 1 of 5

Page 1 - INTRODUCTION:

Item revised to read "In eighth line of first paragraph, change '80 to 108' to '84 to 110.'

Page 14, Paragraph 3.1.2.2 - LOADING SUMMARY:

Second item revised to read "Under 'Payload 2 change' (108 passengers)' to '(110 passengers).'"

Add: "Change payload from 26,450 lbs. to 26,780 lbs."

Page 2 of 5

Page 105, Paragraph 3.19.1.1.4 - LOUNGE SEATS:

Add: "All seats shall be CAA approved for occupancy during takeoff landing."

Page 3 of 5

Page 114, Paragraph 3.19.3.6 - HAT RACKS:

Revise the last sentence of the paragraph to read: "A door or doors shall be provided for each bin capable of containing stoved loads of one pound per lineal inch under CAA crash load conditions."

Page 129, Paragraph 3.23.2 - EQUIPMENT INTERCHANGEABILITY:

This item deleted from change proposal

RECEIVED

Page A3, Appendix I-C - ELECTRICAL SYSTEM:

NOV 28 '58

This item deleted from change proposal.

PROJECT
SPEC.
GROUP

Page 4 of 5

The item reading "Delete sixth item Window Curtains - 7.5 oz. has been relocated to Page A-15, Appendix I-C - Furnishings, since this is the page covering this item in the specification.

(Cont. on page 2)

CONVAIR-SD

TWA Minutes No. 158

25 November 1958
Page Two

A copy of the change is attached. This change results in a weight empty increase of 324.8 pounds per airplane.

ACTION; All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGO

SALES ORDER

bops
T25

Sold to: Hughes Tool Company
Houston, Texas

Date: 11 November 1958

SO No: 880-1-185

WO No: 30,000 Series

Reference: (a) TWA letter, 880-794A-182, dated
7 November 1958
(b) Commercial Change Proposal No. 207
(c) MCL No. 10,287
(d) D.I.B. No. 4.010

MODEL 880 - TWA

LANDING GEAR COMPONENT HEAT TREAT

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,287, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/9/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

WDW:BC

Log No: 5321

for W P Weller
C. G. Glasgow
Manager of Contracts

RECEIVED

NOV 12 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA Minutes
17 November 1958

No. 156
22-1

- Reference: (a) S. O. 880-1-185 dated November 11, 1958
(b) Commercial Change Proposal No. 207
(c) MCL No. 10,287

1. LANDING GEAR COMPONENT HEAT TREAT

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,287, Reference (c).

Description of Change:

Page 36, Paragraph 3.8.4.8 MATERIAL PROPERTIES:

Revise the first sentence to read as follows:

"The main landing gear shock strut outer cylinder and piston, main landing gear upper torque arm bolt and the wheel truck beam in addition to the nose gear side brace bolt, nose gear steering pinion and nose gear steering rack may be made from SAE 4340 steel, heat treated to 260,000 - 280,000 psi."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is



A. J. Sevard
Project Engineer

RECEIVED
NOV 19 '58
PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
#25

Sold to: Hughes Tool Company
Houston, Texas

Date: 7 November 1958

Reference: (a) TWA letter, 880-791A-181, dated
4 November 1958

(b) Commercial Change Proposal No. 218

(c) MCL No. 10,301

(d) D.I.B. No. 4.010

SO No: 880-1-184

WO No: 30,000 Series

MODEL 880 - TWA

REPLACEMENT OF RECIRCULATION FAN - AIR CONDITIONING SYSTEM.

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,301, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/5/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.
- (4) This change is to be incorporated on all TWA airplanes prior to delivery.

WDW:BC

Log No: 5303

for *W. V. Waller*
C. G. Glasgow
Manager of Contracts

RECEIVED

NOV 14 '58

PROJECT
SPEC.
GROUP

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

18 Nov. 1958

No. 157
22-1

- Reference: (a) S. O. 880-1-184 dated 7 November 1958
(b) Commercial Change Proposal No. 218
(c) MCL No. 10,301

1. REPLACEMENT OF RECIRCULATION FAN - AIR CONDITIONING SYSTEM

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), based on MCL No. 10,301, Reference (c).

Description of Change:

Page A-17, APPENDIX I-C, PRESS., ANTI-ICING AND AIR COND. EQUIP:

Change the sixth item in the Description List as follows:

From: "1 Recirculation Blower (cabin air) Ham.
Standard 522200"

To: "1 Recirculation Blower (cabin air) Ham.
Standard 545751"

This change is to be incorporated on all TWA airplanes prior to delivery.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Bevard
Project Engineer

AJS:JMC:is

RECEIVED

NOV 19 '58

PROJECT
SPEC.
GROUP

W.G. Bennett #2

CONVAIR-SAN DIEGO

SALES ORDER

OCPS #25

No Spec Lang Change

Sold to: Hughes Tool Company
Houston, Texas

Date: 5 November 1958

Reference: (a) TWA TWX, 880-789A-180, dated
4 November 1958
(b) Commercial Change Proposal No. 221,
Proposal No. I
(c) MCL No. 10,293
(d) D.I.B. No. 4.010

SO No: 880-1-183

WO No: 30,000 Series

MODEL 880 - TWA

BUFFET OVENS, REVISION TO - PROPOSAL NO. I

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,293, Reference (c) Proposal No. I redesigns the structure of the 880 oven for interchangeability with Nordskog 707 buffet oven. Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b), Proposal No. I.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (12/3/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, or delivery schedule.

RECEIVED

NOV 7 '58

PROJECT
SPEC.
GROUP

W.D.W. BC

Log No: 5281

J. G. Glasgow
C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
6 NOVEMBER 1958

No. 155
22-1

References: (a) S.O. 880-1-183 dated 5 November 1958
(b) Commercial Change Proposal No. 221, Proposal "A"
(c) MCL No. 293

1. BUFFET OVENS, REVISION TO - PROPOSAL "A"

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 293, Reference (c). Reference (b) proposal redesigns the structure of the 880 oven for interchangeability with Nordskog 707 buffet oven.

This change has no effect on Specification language.

ACTION: All concerned are authorized to proceed with the above.


A. J. Savard
Project Engineer

AJS:JMC:jh

RECEIVED

NOV 11 '58

PROJECT
SPEC.
GROUP

CONVAIR-SAN DIEGO

SALES ORDER

COPS
H25

Sold to: Hughes Tool Company Date: 31 October 1958
Houston, Texas

Reference: (a) TWA letter, 880-782A-179, dated SO No: 880-1-182
28 October 1958
(b) Commercial Change Proposal No. 216 WO No: 30,000 Series
(c) MCL No. 10,351
(d) D.I.B. No. 4.010

MODEL 880 - TWA

TWA SELECTED EXTERIOR MARKINGS AND COLOR SCHEMES

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,351, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/28/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 63 pounds, with no effect on performance, delivery schedule, or contract price.

WDW:BC

Log No: 5265

WD Ullor
for C. G. Glasgow
Manager of Contracts

RECEIVED

NOV 5 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

No. 154
22-1

TWA MINUTES
31 October 1958

ference: (a) S.O. 880-1-182 dated 31 October 1958
(b) Commercial Change Proposal No. 216
(c) MCL No. 10,351

• TWA SELECTED EXTERIOR MARKINGS AND COLOR SCHEMES

TWA has accepted as evidenced by Reference (a), our proposal, Reference (b), based on MCL 351, Reference (c).

Description of Change:

Page A-15, APPENDIX I-C, FURNISHINGS:

Change the bottom item as follows:

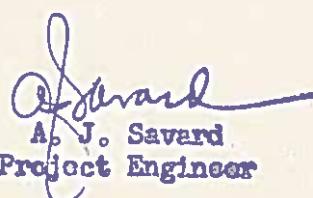
From: "Exterior Marking Paint - Weight is for CAA numbers and Identification 20.0 lb"

To: "Exterior Marking and Color Scheme Paint (including weight for CAA numbers and identification) 83.0 lb"

Reference Convair Drawing No. 22-98001 EXTERIOR MARKINGS--TWA.

This change results in a weight empty increase of 63 pounds per airplane.

UTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

W. F. Brown 6-712

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 28 October 1958

SO No: 880-1-181

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 20

- (1) Attached is a copy of Change Order No. 20 signed by Hughes Tool Company, which amends Detail Specification Report No. 2D-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change No. 19F on the Model 880 aircraft.
- (2) The following item should be deleted from Specification Change No. 19F and the subject change order:

Page A-5 Power Supply (416N-5), Collins, 505-3706-013

WDW.BC

Log No: 5213

for WDW.BC
C. G. Glasgow
Manager of Contracts

cc: E. Burke (w/excc. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 20

RECEIVED

OCT 30 '58

PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 20
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change No. 19F and Commercial Change Proposal Summary No. 19 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Change No. 19F and Commercial Change Proposal Summary No. 19 attached.

D. Effect on performance:

As reflected in Specification Change No. 19F and Commercial Change Proposal Summary No. 19 attached.

E. Effect on delivery:

None

F. This Change Order results in no charges or credits.

G. The attached Specification Change No. 19F and Commercial Change Proposal Summary No. 19 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.

H. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 23rd day of October 1958

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel

By Thomas B. Eastland, Jr.

Title Special Representative

Title Chief of Contract Admin-
istration - Convair Division
(San Diego)

CONVAIR - SAN DIEGO

SALES ORDER

ccps
HVS

Sold to: Hughes Tool Company
Houston, Texas Date: 21 October 1958

Reference: (a) TWA letter, 880-774A-176, dated 17 October 1958 SO No: 880-1-180
(b) Commercial Change Proposal No. 215 WO No: 30,000 Series
(c) MCL No. 10,299
(d) D.I.B. No. 4.010

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE - FUSELAGE

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 10,299, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/18/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price, or delivery schedule.

WDW:BC

Log No: 5168


C. G. Glasgow
Manager of Contracts

RECEIVED

OCT 22 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
22 October 1958

No. 153
22-1

Reference: (a) S.O. 880-1-180 dated 21 October 1958
(b) Commercial Change Proposal No. 215
(c) MCL No. 299

1. SPECIFICATION ADMINISTRATIVE CHANGE-FUSELAGE

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 299, Reference (c).

Description of Change:

Page 7, Paragraph 1.2 GENERAL DESCRIPTION:

Change: "vertical tail" in the last line

To: "fuselage"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

~~W. G. Smith 1/22~~
CCP's
2=

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA letter 880-755A-170 dated 10/8/58
(b) Commercial Change Proposal No. 209
(c) MCL No. 289
(d) D.I.B. No. 4.010, Revised 27 May 1958

Date: 20 October 1958
SO No: 880-1-179
WO No: 30,000 Series

MODEL 880 - TWASPECIFICATION ADMINISTRATIVE CHANGE

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 289, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/14/58) per reference (d) with the modifications as noted below:

Page 32 Continued, Paragraph 3.8.1.2 CONTROLS:

"The control lever shall remain locked until the left hand shock strut is extended and both main landing gear trucks are in the level zone.
Add new paragraph to read as follows:

"The landing gear lever shall be equipped with a sector or comparable mechanism which will mechanically hold the solenoid lock assembly in the energized (unlocked) position when the landing gear lever is in any position except the down position."

Page 80, Paragraph 3.16.11.1 LANDING GEAR WARNING HORN:

Revise the paragraph title and paragraph to read as follows:

"LANDING GEAR AND STABILIZER WARNING HORN: A horn shall be provided to operate under the following conditions:

When any landing gear is not fully extended and locked with the aircraft airborne, the horn will operate if any power lever is retarded or if the flaps are in the range of approach to land. The power lever retard function will have a horn interrupter switch. The power lever horn interrupter switch shall be functionally associated with individual power levers. If the horn is cut off for one power lever, the horn will operate if any other power lever is retarded. Similarly, the horn circuit will be re-armed if the horn is cut off after a second and third power lever is retarded.

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OCT 21 '58

PROJECT
SPEC.
GROUP

CONVAIR - SAN DIEGO

Page Two

Sales Order

Sold to: Hughes Tool Company
Houston, Texas

Date: 20 October 1958

Reference: See Page One

SO No: 880-1-179

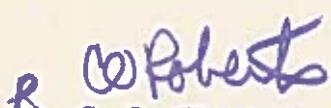
WO No: 30,000 Series

"When the aircraft is ground borne the horn shall operate if the landing gear lever is not down and locked."

When the airplane is on the ground and any two or more of the power levers are advanced to take-off position, the horn will operate if the stabilizer and/or the flaps are not in the correct taksoff position."

- (3) This change has no effect on price, guaranteed weight empty, delivery or performance.

WIDW:dm


C. G. Glasgow
Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
21 October 1958

No. 152
22-1

Reference: (a) S.O. 880-1-179 dated 20 October 1958
(b) Commercial Change Proposal No. 209
(c) MCL No. 289

J. SPECIFICATION ADMINISTRATION CHANGE

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 289, Reference (c).

Description of Change:

Page 32 Continued, Paragraph 3.8.1.2 CONTROLS:

Revise the second sentence, starting in the fifth line, to read as follows:
"The control lever shall remain locked until the left hand shock strut is extended and both main landing gear trucks are in the level zone."

Add new paragraph to read as follows:

"The landing gear lever shall be equipped with a sector or comparable mechanism which will mechanically hold the solenoid lock assembly in the energized (unlocked) position when the landing gear lever is in any position except the down position."

Page 80, Paragraph 3.16.11.1 LANDING GEAR WARNING HORN:

Revise the paragraph title and paragraph to read as follows:

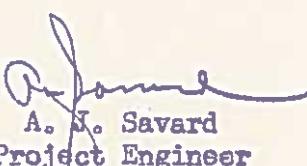
"LANDING GEAR AND STABILIZER WARNING HORN: A horn shall be provided to operate under the following conditions:

When any landing gear is not fully extended and locked with the aircraft airborne, the horn will operate if any power lever is retarded or if the flaps are in the range of approach to land. The power lever retard function will have a horn interrupter switch. The power lever horn interrupter switch shall be functionally associated with individual power levers. If the horn is cut off for one power lever, the horn will operate if any other power lever is retarded. Similarly, the horn circuit will be re-armed if the horn is cut off after a second and third power lever is retarded.

When the aircraft is ground borne, the horn shall operate if the landing gear lever is not down and locked.

When the airplane is on the ground and any two or more of the power levers are advanced to take-off position, the horn will operate if the stabilizer and/or the flaps are not in the correct takeoff position."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGO

SALES ORDER

CCPS
25

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA letter 880-751A-169 dated
10/8/58
(b) Commercial Change Proposal
No. 211.
(c) MCL No. 292
(d) D.I.B. No. 4.010, Revised 27 May 1958

Date: 13 October 1958
Revised: 23 October 1958
SO No: 880-1-178

WO No: 30,000 Series

MODEL 880 - TWA

SPECIFICATION ADMINISTRATIVE CHANGE

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 292, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per reference (d) with the changes as noted below:

Page A-18, Appendix I-C

Delete:

"3 Regulator (Crew Diluter - Demand Type)"

Page A-16, Appendix I-C

Delete:

"1. Maintenance and Operating Manual"

TWA does not desire the maintenance and operating manual installed on their aircraft.

- (3) This change has no effect on price, guaranteed weight empty, delivery or performance.

WJ NOTE: The above deletions are to be deleted from the CCP and not from the Specifications. They will appear in the Specification but will not be prefaced by an asterisk to indicate fixed useful load.

WDW:dm

for C. G. Glasgow
Manager of Contracts

Log No. ~~6222~~ 5197

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OCT 27 '58

PROJECT
SPEC.
GROUP

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TMA MINUTES
16 October 1958
Revised 28 October 1958

No. 150
22-1

Reference: (a) S.O. GDC-1-176 dated 13 October 1958, revised 23 October 1958
(b) Commercial Change Proposal No. 211
(c) MCL No. 292

I. SPECIFICATION ADMINISTRATIVE CHANGE

TMA has accepted, as evidenced by Reference (a), our proposal, Reference (b),
~~based~~ on MCL 292, Reference (c).

~~based~~

Description of Change:

Page A-16, APPENDIX I-C, FURNISHINGS:

Place an asterisk before the following items in the Description List:

- * 4 Escape Chute (inflatable)
- * 1 Flight Manual (CAA Approved)

Add the following to the bottom of Page A-16:

"Fixed Useful Load"

~~Deletions:~~

~~Maintainance and Operating Manual~~

Page 18, APPENDIX I-C, OXYGEN EQUIPMENT:

Place an asterisk before the following items in the Description List:

- * 3 Portable O₂ (310 - Liter)
- * 1 Portable O₂ (310 - Liter)
- * 1 Pr. Asbestos Gloves"

Delete the following from Page A-18:

"Living outlets shall be furnished for the cabin attendants' locations,
flight observer's and lavatory installations

(Living Products Inc., Burbank, California)"

~~Deletions:~~

~~On the basis of present knowledge, no oxygen equipment is required to be installed on~~

~~any aircraft carrying passengers or cargo, except that oxygen equipment may be installed on~~

TWA MINUTES

No. 150

16 October 1958

22-1

Rev. 28 October 1958

Change the following on the bottom of Page A-18:

From: "Useful Load Item"

To: "Fixed Useful Load"

Page A-21, APPENDIX I-C, FIRE EXTINGUISHING EQUIPMENT:

Place an asterisk before the following items in the Description List:

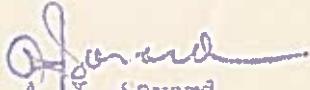
"#1 Portable CO₂ Bottle

"3 Portable Water Bottles"

Add the following to the bottom of Page A-21:

"Fixed Useful Load"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A.J. Savard
Project Engineer

AJS:JMC:edc

CCP S#25

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 13 October 1958

Reference: (a) TWA Message 880-771A-175
(b) Commercial Change Proposal
No. 206A
(c) MCL No. 277
(d) D.I.B. No. 4.010, Revised 27 May 1958

SO No. 880-1-177

WO No. 30,000 Series

MODEL 880 - TWA

RAMP WEIGHT AND TAKEOFF WEIGHT, INCREASE OF

- (1) Hughes Tool Company has accepted per Reference (a), our proposal Reference (b), prepared in accordance with MCL 277, Reference (c). TWA airplanes Nos. 7 through 30 only are affected by this change. Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per Reference (d).
- (3) This change results in a weight increase of 84 pounds per aircraft with no effect on aircraft performance nor delivery schedule.
- (4) This Sales Order cancels and supersedes Sales Order No. 880-1-175.

FOR ACCOUNTING DEPARTMENT ONLY

- (5) This change results in an increase in price per aircraft of \$1,247 as follows:

Recurring	\$ 839 per aircraft
Non-recurring	\$ 408 per aircraft

for a total contract increase of \$29,928 amortized over a 32 airplane program.

WDW:lt

Log No. 5146

102 *Manager, Contracts* RECEIVED
C. G. Glasgow
Manager of Contracts OCT 17 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
16 October 1958

No. 151
22-1

Reference: (a) S.O. 880-1-177 dated 13 October 1958
(b) Commercial Change Proposal No. 206A
(c) MCL No. 277

1. RAMP WEIGHT AND TAKEOFF WEIGHT, INCREASE OF:

Hughes Tool Company has accepted, as evidenced by Reference (a), our proposal, Reference (b), prepared in accordance with MCL 277, Reference (c). TWA airplanes Nos. 7 through 30 only are affected by this change.

Description of Change:

Page 19, Paragraph 3.4.1 STRENGTH:

Change the first two listed items as follows:

From: "Maximum taxi weight (lb).....180,000
Maximum takeoff weight (lb).....178,500"

To: "Maximum taxi weight (lb).....185,000
Maximum takeoff weight (lb).....184,500"

This change results in a weight increase of 84 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:eed

CONVAIR-SD

SALES ORDER

CCP'S
#25

Sold to: Hughes Tool Company Date: 13 October 1958
Houston, Texas SO No: 880-1-176

Reference: (a) TWA letter 880-759A-173 dated 10/6/58 WO No: 30,000 Series
(b) Commercial Change Proposal No. 34A
(c) MCL No. 1
(d) D.I.B. No. 4.010

MODEL 880 - TWA

PASSENGER SERVICE SUPPLY CABINET, PROVISIONS FOR

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL No. 1, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/10/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

WDW:dm

Log No. 5110

for C. G. Glasgow
C. G. Glasgow
Manager of Contracts

RECEIVED
OCT 14 '58
PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

No. 149
22-1

TWA MINUTES
16 October 1958

Reference: (a) S.O. 880-1-176 dated 13 October 1958
(b) Commercial Change Proposal No. 34A
(c) MCL No. 1

1. PASSENGER SERVICE SUPPLY CABINET, PROVISIONS FOR

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 1, Reference (c).

Description of Change:

Page 109, Paragraph 3.19.2.3.1 PASSENGER SERVICE SUPPLY CABINET:

Revise the paragraph to read as follows:

"Provisions shall be made for the stowage of one Buyer furnished passenger service supply cabinet, Buyer No. 106, on the floor of the left hand aft coat compartment. These provisions shall consist of one tie-down strap assembly to secure the cabinet, measuring 9-1/2 inches high, 1-1/2 inches wide and 2-1/4 inches deep, to the floor."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:eed

SALES ORDER

N A

Hughes Tool Company
Houston, Texas

*Canceled 13 October 1958

Date: 7 October 1958

SO No: 880-1-175

WO No: 30,000 Series

- References:
(a) TWA SWX, SDC-760A-174, dated 10/6/58
(b) Commercial Change Proposal No. 306
(c) MCL No. 277
(d) D.I.B. No. L-510, Revised 27 May 1958

MODEL 880 - TWA

RAMP WEIGHT AND TAKEOFF WEIGHT, INCREASE OF

- (1) TWA has accepted per Reference (a), our proposal, Reference (b), prepared in accordance with MCL No. 277, Reference (c). TWA Airplanes Nos. 12 through 30 currently are affected by this change. Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (11/5/58) per Reference (d).
- (3) This change results in a weight increase of 78 pounds per aircraft with no effect on aircraft performance or delivery schedule.
- (4) Reference (c) MCL is being revised to reflect increase in gross takeoff weight from 182,500 to 184,500. This information being developed on expedited basis and customer acceptance or rejection expected by 10 October 1958. This Sales Order will be revised accordingly.

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OCT 15 '58

PROJECT
SPEC.
GROUP

WDW-be

Log No. — 5112

Canceled 10/13/58 and superseded by
Sales Order 880-1-177

For Management of
G. C. Glasgow
Manager of Contracts

W F Beaman 6-122

WFB

CCPS #23

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 26 September 1958

Reference: (a) TWA letter, 880-748A-168, dated
23 September 1958

SO No: 880-1-174

(b) Commercial Change Proposal No. 205

WO No: 30,000 Series

(c) MCL No. 280

(d) D.I.B. No. 4.010

MODEL 880 - TWA

PORTABLE CO₂ BOTTLE, FOUR-POUND IN LIEU OF FIVE-POUND

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 280, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/24/58) per Reference (d).
- (3) This change results in a weight decrease of one pound per airplane, with no effect on guaranteed performance, delivery schedule, or contract price.

WDW:bc

Log No: 4979

for C. G. Glasgow
Manager of Contracts

RECEIVED

SEP 29 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
2 October 1958

No. 148
22-1

- Reference (a) S.O. 880-1-174 dated 26 September 1958
(b) Commercial Change Proposal No. 205
(c) MCL No. 280

1. Portable CO₂ Bottle, four-pound in lieu of five-pound.

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 280, Reference (c).

Description of Change:

Page A21, APPENDIX I-C, FIRE EXTINGUISHER EQUIPMENT:

Change the fourth item in the Description List as follows:

From: "1 Portable CO₂ Bottle (5 lb.)"

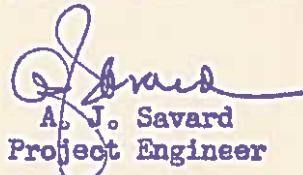
To: "# Portable CO₂ Bottle (Four-lb.) Walter Kidde 870905"

Add the following to the bottom of page:

"#Fixed Useful Load"

This change results in a weight decrease of one pound per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date,


A. J. Savard
Project Engineer

AJS:JMC:eed

CONVAIR - SD

SALES ORDER

CEPS #23

Sold to: Hughes Tool Company Date: 22 September 1958
Houston, Texas

Reference: (a) TWA letter 880-739A-167 dated 9/17/58 SO No: 880-1-173
(b) Commercial Change Proposal No. 188 WO No: 30,000 Series
(c) MCL No. 256
(d) D.I.B. No. 4.010

MODEL 880 - TWA

BATTERY, CHANGE OF FROM 24 TO 27.5 VOLTS

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 256, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/20/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

RBC RBC:dm

RECEIVED

SEP 24 '58

for W. Weller
C. G. Glasgow
Manager of Contracts

PROJECT
SPEC.
GROUP

Log No. 4959

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
24 September 1958

No. 147
22-1

Reference: (a) S.O. 880-1-173, dated 22 September 1958
(b) Commercial Change Proposal No. 188
(c) MCL No. 256

1. BATTERY, CHANGE OF, FROM 24 TO 27.5 VOLTS.

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 256, reference (c).

Description of Change:

Page 66, Paragraph 3.16.2.3 BATTERIES:

Revise the first sentence to read as follows:

"Battery power of 27.5 volts shall be available."

Page 66, Paragraph 3.16.2.4.2 BATTERY COMPARTMENT FINISH:

Revise paragraph and paragraph title as follows:

"BATTERY AREA FINISH: The battery area shall be painted with electrolyte-resistant paint."

Page A-4 Rev., APPENDIX I-C, ELECTRICAL EQUIPMENT:

Change the 10th item in Description List as follows:

From: "1 Battery, Storage, Nickel-Cadmium"
(24 volt or 2 -12 volt)

To: - "1 Battery, Storage, Nickel-Cadmium, 27.5 volt"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Savard
Project Engineer

AJS:JMC:eed

CONVAIR - SD

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 22 September 1958

Reference: (a) TWA letter 880-738A-166 dated 9/17/58
(b) Commercial Change Proposal No. 210
(c) MCL No. 291
(d) D.I.B. No. 4.010

SO No: 880-1-172
WO No: 30,000 Series

MODEL 880 - TWASPECIFICATION ADMINISTRATIVE CHANGE - INSTALLATION OF A ROTARYTYPE STATIC SELECTOR VALVE

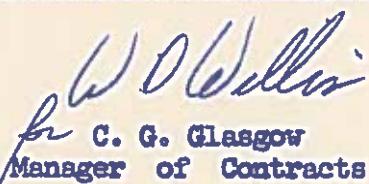
- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 291, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (10/20/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, price or delivery schedule.

RBC

RBC:dm

RECEIVED

SEP 24 '58

PROJECT
SPEC.
GROUP

 W.O. Wallin
 C. G. Glasgow
 Manager of Contracts

Log No. 4958

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
24 September 1958

No. 146
22-1

Reference: (a) S.O. 880-1-172, dated 22 September 1958
(b) Commercial Change Proposal No. 210
(c) MCL No. 291

1. SPECIFICATION ADMINISTRATIVE CHANGE - INSTALLATION OF A ROTARY TYPE STATIC SELECTOR VALVE

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 291, reference (c).

Description of Change:

Page 59, Paragraph 3.14.3.2.2 STATIC SELECTOR VALVES:

Change the following words in the first line:

From: "toggle-type"

To: "rotary-type"

Change the following word in the last line:

From: "instrument"

To: "auxiliary"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

A. J. Savard
Project Engineer

AJS:JMC:eed

N A

SALES ORDER

SOLD TO:

Hughes Tool Company
Houston, Texas

**Revised:

*Revised:

Date:

SALES ORDER

9 October 1958

20 September 1958

12 September 1958

SO No:

880-1-171

Reference:

- (a) TWA letter, Connolly to Keymarc,
dated 14 August 1958
- (b) Purchase Agreement, Hughes
Tool Company and General Dynamics
Corporation - Article 10
- (c) TWA TMA dated 3 September 1958

MO No:

30,000 Series

MODEL 300 - TWAADDITIONAL EQUIPMENT TO BE PURCHASED FROM TWA

- (1) This Sales Order authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R.W. Rummel, Special Representative, 10 Richardson Road, Kansas City 5, Missouri, covering the following equipment and corresponding prices:

Description	On Dock Dates	Unit Cost
TWA Transceiver (P/N TRU1D-13A - 1 per a/c)	10/1/58	\$ 250.00
Transceiver Shockmount (P/N 290-2537)	10/1/58	31.00
Filter Kit K12 (P/N 14-336 - 1 per a/c)	12/5/58	15.00
Oxygen Bottle - Walter Kidde (P/N 1012 - 3 per a/c)		260.00

- (2) An appropriate change order will be issued at a future date which will increase the price of the aircraft accordingly.

- (3) This Sales Order cancels and supersedes S.O. 880-1-167 together with all previous internal correspondence associated with the above listed items which were previously designated as customer vended equipment.

- (4) This Sales Order will be revised from time to time to provide for additional contracted items.

- (5) Items a, b and c have been received from TWA and transferred to the Building 43 stockroom to await disposition.

- (6) This Sales Order is revised to authorize the transfer of the items listed in Paragraph (1) from CFE Stores, Bldg. 43, to Inventory Stores, Rose Canyon.

FBC Am

Log No

5240 5101

KG *Revised to add para. (5)
*Revised to add para. (6)

RIS/C

A. C. Roberts
C. G. Glasgow
Manager of Contracts

RECEIVED

OCT 10 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

18 September 1958

No. 145

22-1

- Reference: (a) S. O. No. 880-1-171 dated 12 September 1958
(b) S. O. No. 880-1-167 dated 29 August 1958
(c) Article 10 of Purchase Agreement, Hughes Tool Company
and General Dynamics Corporation
(d) TWA Minutes No. 143 dated 4 September 1958

1. ADDITIONAL EQUIPMENT TO BE PURCHASED FROM TWA

Sales Order, reference (a), authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rumml, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following equipment and corresponding prices:

<u>Description</u>	<u>On Dock Dates</u>	<u>Unit Cost</u>
a. TWI Transceiver (P/N TRXED-13A - 1 per a/c)	10/1/58	\$250.00
b. Transceiver Shockmount (P/N 290-2537 - 1 per a/c)	10/1/58	31.00
c. First Aid Kit (P/N 44-0336 - 1 per a/c)	12/5/58	15.00
d. Oxygen Bottle - Walter Kidde (P/N 890491 - 3 per A/C)		260.00

This Sales Order cancels and supercedes S. O. 880-1-167, reference (b) and reference (d) Minutes.

ACTION: All Concerned are authorized to proceed with the above.

A. J. Sevard
A. J. Sevard
Project Engineer

RECEIVED

SEP 19 '58
PROJECT
SPEC.
GROUP

rb

CCPS 23

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 3 September 1958

SO No: 880-1-170

Reference: (a) TWA TWX, 880-723A-165 dated
8/29/58

WO No: 30,000 Series

(b) Commercial Change Proposal No. 203
(c) MCL No. 273
(d) D.I.T. No. 4.010

MODEL 880 - TWA

SPARE WIRING IN ELECTRONIC RACKS, INSTALLATION OF

- (1) TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 273, reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/30/58) per reference (d).
- (3) This change has no effect on guaranteed weight empty, performance or delivery schedule.

b/w
WDW:dm

Log No. 4796

R C. G. Glasgow
C. G. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

Fitz

TWA MINUTES

4 September 1958

No. 144
22-1

REFERENCE: (a) S.O. 880-1-170 dated 3 September 1958
(b) Commercial Change Proposal No. 203
(c) MCL No. 273

1. SPARE WIRING IN ELECTRONIC RACKS, INSTALLATION OF

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 273, reference (c). The task is as follows:

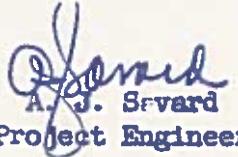
VENDOR:

- a. Rework Shelf "B" internal harness 22-32842 by adding one wire from pin 41 of equipment unit plug to terminal 14 of terminal strip 1B.
- b. Rework Shelf "B" internal harness 22-32840 by removing existing wire from pin 17 of bottom equipment unit plug to pin 21 of bottom equipment unit plug.
- c. Rework Shelf "B" internal harness 22-32845 by adding one wire from pin 17 of equipment unit plug to terminal strip.
- d. Rework Shelf "A" internal harness 22-32809 by removing existing wire from pin 6 of equipment unit plug to pin 9 of equipment unit plug R/T unit.
- e. Rework Shelf "C" internal harness 22-32806 by removing existing wire from pin 6 of equipment unit plug to pin 21 of equipment unit plug. Remove existing wire from pin 33 of equipment unit plug to pin 22 of equipment unit plug.

CONVAIR TASK:

- a. Rework DMET No. 1 control panel harness 22-31841 by changing two wires in control panel plug.
- b. Rework Selcal harness 22-32959 by adding one wire from equipment unit plug to audio "J" box.
- c. Rework weather radar antenna harness 22-31803 and 22-31801 by removing wire from pin X to pin Y of connector.
- d. Rework weather radar indicator harness 22-31800 by removing existing wires from pin 10 to pin 18 and pin 21 to pin 19 of indicator plug.
- e. Rework DMET No. 2 control panel harness 22-31961 by changing two wires in control panel plug.
- f. Rework ATC beacon control harness 22-31805 by changing two wires in control panel plug.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward rev. spec. pages to Contracts within 4 weeks of Sales Order date.


A.J. Svard
Project Engineer

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 3 September 1958
SO No: 880-1-169
WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE-ORDER NO. 19

- (1) Attached is a copy of Change Order No. 19 signed by Hughes Tool Company which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161, 162, 164, 166 and 168 on the Model 880 aircraft.

RECEIVED
SEP 5 58
PROJECT
SPEC.
GROUP

WWD:dm

Log No. 10009 4806

cc: C. G. Glasgow
C. G. Glasgow
Manager of Contracts

cc: E. Burke (v/exec. copy)
880 Project Office (v/attach 2)
Comm. Sales (v/attach)
H.A. Kayes (v/attach)
Contracts Staff Section (v/attach)
E. E. Johnson (v/attach)
J. Doig (v/attach)

W. F. Brown (v/attach)
G. Whaler (v/attach)
H.R. Kennedy (v/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 19

CHANGE ORDER NO. 19
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161, 162, 164, 166, and 168 and Commercial Change Proposal Summary No. 18 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 18 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 18 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 22E - Water System, Single 50 Gallon Tank (Pages 57, 108Cont, and A-14)

No Charges or Credits

2. Change No. 116 - VHF Communication Antenna, Relocation of (Pages 96 and A-5)

No Charges or Credits

3. Change No. 141A - Bilingual Passenger Signs (Pages 77, 112, A-3, and A-14)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 107.00	\$ 3,210.00
Non-recurring Charge	<u>101.00</u>	<u>3,030.00</u>
Total Charges	\$ 208.00	\$ 6,240.00

CHANGE ORDER NO. 19
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

4. Change No. 145 - Specification Admin-
istrative Change (Main Entrance Doors)
(Page 29)

No Charges or Credits

5. Change No. 148 - Specification Admin-
istrative Change (Air Cond. Controls)
(Page 119)

No Charges or Credits

6. Change No. 155 - Engine Pressure Ratio
(Page A-8)

	<u>Per Airplane</u>	<u>Total for</u> <u>20 Airplanes</u>
Recurring Credit	\$ 1,109.90	\$ 33,270.00
Non-recurring Charge	<u>198.00</u>	<u>5,940.00</u>
Total Credits	\$ 911.00	\$ 27,330.00

7. Change No. 159 - Stewardess Seat
and Handset (Page 99, 105, and
108 Cont)

No Charges or Credits

8. Change No. 161 - Specification Admin-
istrative Change (DMET) (Page 89 and
102)

No Charges or Credits

9. Change No. 162 - Specification Admin-
istrative Change (Cargo Space Capacity)
(Pages 14 and 15)

No Charges or Credits

10. Change No. 164 - External Power Provisions
(Pages 57, 66, and 79)

Recurring Charge	\$ 912.00	\$ 27,360.00
Non-recurring Charge	<u>711.00</u>	<u>21,330.00</u>
Total Charges	\$ 1,623.00	\$ 48,690.00

CHANGE ORDER NO. 19
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

11. Change No. 166 - Wheel Well Fire Detectors (Pages 80 and 116)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Credit	\$ 193.00	\$ 5,790.00
Non-recurring Charge	<u>84.00</u>	<u>2,520.00</u>
 Total Credits	 \$ 109.00	 \$ 3,270.00

12. Change No. 168 - Nacelle Fire Extinguisher (Page 115)

No Charges or Credits

13. Summary of the foregoing charges and/or credits:

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Credits	\$ 283.00	\$ 8,490.00
Non-recurring Charges	<u>1,094.00</u>	<u>32,820.00</u>
 Total Charges	 \$ 811.00	 \$ 24,330.00

- G. The attached Specification Change Nos. 22E, 116, 141A, 145, 148, 155, 159, 161, 162, 164, 166, and 168 and Commercial Change Proposal Summary No. 18 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-C02 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 19 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 18 as said

CHANGE ORDER NO. 19
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 18 is so executed by Hughes Tool Company, this Change Order No. 19 shall be considered in full force and effect. In the event said Change Order No. 18 is not so executed by Hughes Tool Company, this Change Order No. 19 shall be void and of no effect.

- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 25th day of August 1958.

HUGHES TOOL COMPANY

By R. W. Rummel

Title Special Representative

GENERAL DYNAMICS CORPORATION

By Thomas B. Eastland, Jr.

Title Chief of Contract Administration-
Convair Division (San Diego)

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 3 September 1958
SO No: 880-1-168
WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 18

- (1) Attached is a copy of Change Order No. 18 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151 and 153 on the Model 880 aircraft.

RECEIVED
SEP 5 '58
PROJECT
SPEC.
GROUP

WDW:dm

Log No: 4793-4805

L. C. Roberts
L. C. Glasgow
Manager of Contracts

cc: E. Burke (v/exec. copy)
880 Project Office (v/attach 2)
Comm. Sales (v/attach)
H.A. Kayes (v/attach)
Contracts Staff Section (v/attach)
E.E. Johnson (v/attach)
J. Doig (v/attach)

W. F. Brown (v/attach)
G. Whisler (v/attach)
H.R. Kennedy (v/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 18

CHANGE ORDER NO. 18
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956.

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151, and 153 and Commercial Change Proposal Summary No. 17 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 17 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 17 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 3A - Hydraulic Reservoirs
(Pages 57, 63, A8, and All)

No Charges or Credits

2. Change No. 101A - Emergency Brake System
(Pages 34, 34(cont), 58, 64, and A8)

	Per Airplane	Total for 30 Airplanes
Recurring Charge	\$ 241.00	\$ 7,230.00
Non-recurring Charge	<u>241.00</u>	<u>7,230.00</u>
Total Charges	\$ 482.00	\$ 14,460.00

3. Change No. 102A - Emergency Speed Brake Control
(Pages 19, 23, 32, 32(cont), and 33)

No Charges or Credits

CHANGE ORDER NO. 18
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

4. Change No. 130 - Nose Wheel Brake and Steering (Pages 56, 62, 64, and All)

No Charges or Credits

5. Change No. 140 - P.A. and Interphone System (No Pages Affected)

	<u>Per Airplane</u>	<u>Total for 20 Airplanes</u>
Recurring Charge	\$ 41.00	\$ 1,230.00
Non-recurring Charge	<u>58.00</u>	<u>1,740.00</u>
Total Charges	\$ 99.00	\$ 2,970.00

6. Change No. 144 - Lavatory Hot Water Provisions (Page 108(cont))

Recurring Charge	\$ 991.00	\$ 29,730.00
Non-recurring Charge	<u>404.00</u>	<u>12,120.00</u>
Total Charge	\$ 1,395.00	\$ 41,850.00

7. Change No. 149A - Single Loop AC Fenval Fire Detector (Pages 86, 88, and 116)

Recurring Credit	\$ 970.00	\$ 29,100.00
Non-recurring Charge	<u>—</u>	<u>—</u>
Total Credits	\$ 970.00	\$ 29,100.00

8. Change No. 150 - Rivets in Wing Leading Edges (Page 5)

No Charges or Credits

9. Change No. 151 - Airline Schedule Holder (Page 114)

Recurring Charge	\$ 25.00	\$ 750.00
Non-recurring Charge	<u>34.00</u>	<u>1,020.00</u>
Total Charges	\$ 59.00	\$ 1,770.00

CHANGE ORDER NO. 18
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

10. Change No. 153 - 1,000 Watt Landing Lights
(Page 73)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 43.00	\$ 1,290.00
Non-recurring Charge	<u>141.00</u>	<u>4,230.00</u>
Total Charges	\$ 184.00	\$ 5,520.00

11. Summary of the foregoing charges and/or credits:

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charges	\$ 371.00	\$ 11,130.00
Non-recurring Charges	<u>878.00</u>	<u>26,340.00</u>
Total Charges	\$ 1,249.00	\$ 37,470.00

G. The attached Specification Change Nos. 3A, 101A, 102A, 130, 140, 144, 149A, 150, 151, and 153 and Commercial Change Proposal Summary No. 17 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.

H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 18 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 17 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 17 is so executed by Hughes Tool Company, this Change Order No. 18 shall be considered in full force and effect. In the event said Change Order No. 17 is not so executed by Hughes Tool Company, this Change Order No. 18 shall be void and of no effect.

I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 25th day of August 1958.

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel

Title Special Representative

By Thomas B. Eastland, Jr.

Title Chief of Contract Administration-
Convair Division (San Diego)

SALES ORDER

N A

Sold to: Hughes Tool Company
Houston, Texas

*Revised 12 September 1958 to cancel
*Revised 9 September 1958

Date: 29 August 1958

Reference: (a) TWA letter Cannady to Reynard,
dated 14 August 1958
(b) Purchase Agreement Hughes Tool
Company and General Dynamics Corp.,
Article 10
(c) TWA TWX dated 3 September 1958
MODEL 880 - TWA

SO No: 880-1-167

WO No: 30,000 Series

CUSTOMER VENDED EQUIPMENT

- (1) This Sales Order authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rummel, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following customer-vended equipment: and indicating the corresponding prices:

	Description	On Dock Dates	UNIT COST
12 per a/c	a. TWT Transceiver (P/N TXKED-13A)	10/1/58	\$ 250.00
12 per a/c	b. Transceiver Shockmount (P/N 290-2537)	10/1/58	31.00
12 per a/c	c. First Aid Kit (P/N 44-0336)	12/5/58	15.00
12 per a/c	d. Oxygen Bottle-Walter Kidde (P/N 890491)		260.00

~~In connection with these items will be furnished Convair by the customer upon return to Convair of acknowledgement copies of the Purchase Orders.~~

- (2) The following notation should be prominently displayed on the face of each Purchase Order:

~~"NOT TO BE PAID BY CHECK. PAYMENT SHALL BE MADE BY CREDIT TO VENDER."~~

- (4) Subject Purchase Orders should include instructions to the customer requesting the use of specific markings on shipments and shipping papers in order to insure correct and adequate identification and routing.

- (5) The Material Department is further requested to issue receiving reports and send copies to Commercial Contracts upon receipt of CVE at Convair.

- (6) After receiving inspection, the material is to be routed to the appropriate Customer Furnished Equipment stockroom (per DSP 8-18 Suppl't 2) where it is to be held until required.

- (7) The CFE stockroom is to issue CVE only when properly authenticated disbursement requisitions have been created to properly record movement of material (per stipulation of DSP 8-18 Suppl't 2).

~~An appropriate change order will be issued at a future date which will increase the price of the aircraft accordingly.~~

~~RECEIVED~~

PROJECT
SPEC.
GROUP

RCG:BC G

ES

Log No: 4885

D. C. Roberts
J. C. Roberts

*Revised to add ref (c), amend para (1) and delete paras (2) and (3).
Revised to cancel sales order-see 880-1-171

G. G. Glasgow

Manager of Contracts

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
4 September 1958

No. 143

22-1

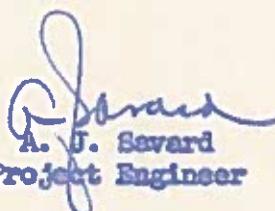
- Reference: (a) S.O. 880-1-167 dated 29 August 1958
(b) Article 10 of Purchase Agreement, Hughes Tool Company and General Dynamics Corporation.

1. CUSTOMER VENDED EQUIPMENT

The Sales Order, reference (a), authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rummal, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following customer vended equipment:

	<u>Description</u>	<u>On Dock Dates</u>
a.	TWI Transceiver	10/1/58
b.	Transceiver Shockmount	10/1/58
c.	First Aid Kit	12/5/58

ACTION: All concerned are authorized to proceed with the above.


A. J. Seward
Project Engineer

AJS:JMC:rb

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
4 September 1958

No. 143

Revised 23 September 1958

22-1

Reference: (a) S.O. 880-1-167 dated 29 August 1958 Revised 12 September 1958
(b) Article 10 of Purchase Agreement, Hughes Tool Company and
General Dynamics Corporation.

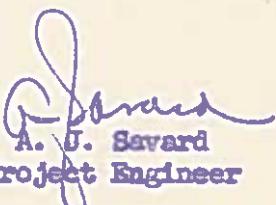
DID (1. CUSTOMER VENDED EQUIPMENT

The Sales Order, reference (a), authorizes the Material Department to issue Purchase Orders to the Hughes Tool Company, c/o R. W. Rummel, Special Representative, 10 Richards Road, Kansas City 5, Missouri, covering the following customer vended equipment:

	Description	On Dock Dates
a.	TWA Transceiver	10/1/58
b.	Transceiver Shockmount	10/1/58
c.	First Aid Kit	12/5/58) VOID

2. Revised to cancel minutes. See Minutes #145.

ACTION: All concerned are authorized to proceed with the above.


A. J. Sevard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 18 August 1958

SO No: 880-1-166 ✓

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 17

- (1) Attached is a copy of Change Order No. 17 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956, to incorporate Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A on the Model 880 aircraft.

WDW:bc

Log No: 4690

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
E. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Co.
Change Order No. 17

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PROJECT
SPEC
GROUP

CHANGE ORDER NO. 17
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A and Commercial Change Proposal Summary No. 16 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 16 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 16 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 00 - Deletion of Deodorant Canister
(Pages 109 and A-14)

No Charges or Credits

2. Change No. 4 - Airplane Configuration Detail,
Revision of (Pages 15, 36, 38, 39, 40 and 41)

No Charges or Credits

3. Change No. 44B - Gaseous Oxygen System
(Pages 117 and A-18)

No Charges or Credits

4. Change No. 54 - Deletion of Exciter Ceiling
Protection (Page 65)

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No Charges or Credits

AUG 18 '58

PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 17
 to
 HUGHES TOOL COMPANY
 Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

5. Change No. 86A - Electronic Panel Change
 (Pages 90 and A-7)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 256.00	\$ 7,680.00
Non-recurring Charge	<u>54.00</u>	<u>1,620.00</u>
 Total Charges	 <u>\$ 310.00</u>	 <u>\$ 9,300.00</u>

6. Change No. 117 - Compass Comparator,
 Installation of (Pages 56 and A-8)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 345.00	\$ 10,350.00
Non-recurring Charge	<u>787.00</u>	<u>23,610.00</u>
 Total Charges	 <u>\$ 1,132.00</u>	 <u>\$ 33,960.00</u>

7. Change No. 118A - Federal Regulations
 (Revised) Pages 8 and 74)

No Charges or Credits

8. Change No. 127 - Tinted Windows
 (Page 28)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 17.00	\$ 510.00
Non-recurring Charge	<u>58.00</u>	<u>1,740.00</u>
 Total Charges	 <u>\$ 75.00</u>	 <u>\$ 2,250.00</u>

9. Change No. 134A - CAA Flight Data
 Recorders (Page 61)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 469.00	\$ 14,070.00
Non-recurring Charge	<u>152.00</u>	<u>4,560.00</u>
 Total Charges	 <u>\$ 621.00</u>	 <u>\$ 18,630.00</u>

10. Summary of the foregoing charges and/or
 credits:

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charges	\$ 1,087.00	\$ 32,610.00
Non-recurring Charges	<u>1,051.00</u>	<u>31,530.00</u>
 Total Charges	 <u>\$ 2,138.00</u>	 <u>\$ 64,140.00</u>

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PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 17
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

- G. The attached Specification Change Nos. 00, 4, 44B, 54, 86A, 117, 118A, 127, and 134A and Commercial Change Proposal Summary No. 16 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised 7 September 1956.
- H. Notwithstanding any other provisions of the Purchase Agreement and/or this Change Order No. 17 it is expressly understood and agreed that the execution hereof by General Dynamics Corporation is conditioned upon and subject to the prior execution by Hughes Tool Company of Change Order No. 16 as said Change Order was executed by General Dynamics Corporation. In the event that said Change Order No. 16 is so executed by Hughes Tool Company, this Change Order No. 17 shall be considered in full force and effect. In the event said Change Order No. 16 is not so executed by Hughes Tool Company, this Change Order No. 17 shall be void and of no effect.
- I. Except as herein modified all provisions of the Detail Specification shall remain in effect.

- CONVAIR -
Approved as to
Legality & Form
s. 5/26 1958

Accepted and agreed to

This 11 day of August 1958

HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel

By C. G. Glasgow

Title Special Representative

Title Manager of Contracts
Convair Division
San Diego

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AUG 18 '58

Page Three

PROJECT
SPEC.
GROUP

CcPS 423

CONVAIR-SAN DIEGO

SALES ORDER

Sold to:	Hughes Tool Company Houston, Texas	Date:	8 August 1958
Reference:	(a) TWA TWX, 880-697A-161, dated 7 August 1958 (b) Commercial Change Proposal No. 199A (c) MCL 271 (d) D. I. B. No. 4.010	SO No:	880-1-165
		WO No:	30,000 Series

MODEL 880 - TWA

FLIGHT DEVIATION INDICATOR - REVISION TO

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 271, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/5/58) per Reference (d).
- (3) This change results in a weight increase of two pounds per airplane, with no effect on performance, delivery schedule, or contract price.

co Roberts
C. G. Glasgow
Manager of Contracts

W
WDW:bc

Log No: 4643

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AUG 12 '58
PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
12 August 1958

No. 142
22-1

Reference: (a) S. O. 880-1-165 dated 8 August 1958
(b) Commercial Change Proposal No. 199A
(c) MCL No. 271

1. Flight Deviation Indicator, Revision to

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 271, Reference (c). The task is as follows:

Procure and install two (2) Bendix flight deviation indicators similar to and in lieu of Bendix part number 7227-3A-12-A1. The new indicators to incorporate a 28 volt integral light. The new instruments are interchangeable.

Revise three (3) harnesses by adding 2 wires per harness (approximately 7' long).

Engineering Schedule

Mechanical Portion F/R 8/19
Furnishings Portion F/R 8/11

This change results in a weight increase of two pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is


A. J. Savard
Project Engineer

CCPS #25

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 8 August 1958

Reference: (a) TWA letter, 880-685A-159, dated
21 July 1958
(b) Commercial Change Proposal No. 189
(c) MCL 251
(d) D. I. B. No. 4.010

SO No: 880-1-164

WO No: 30,000 Series

MODEL 880 - TWA

LOW ENERGY IGNITION SYSTEM - INSTALLATION OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 251, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within [unclear] weeks (9/5/58) per Reference (d).
- (3) This change results in a weight increase of 35 pounds per airplane with no effect on performance, delivery schedule, or contract price.
- (4) TWA has been assured in accordance with instructions from the Engineering Project Office that provisions covered by this proposal will be adequate to handle electrical load inputs of two high energy systems firing simultaneously, but that the existing switching arrangement is not sufficient to accomplish this result. Departments concerned are directed to assure compliance with the foregoing, but it need not be incorporated in revised specification language.

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

WDW:bc

Log No: 4644

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AUG 12 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

Graas

TWA MINUTES

12 August 1958

No. 141
22-1

- Reference (a) S. O. 880-1-164 dated 8 August 1958
(b) Commercial Change Proposal No. 189
(c) MCL No. 251

1. Low Energy Ignition System - Installation of

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based on MCL No. 251, Reference (c).

Description of Change:

Page 78, add the following new paragraph to the page after paragraph 3.16.9:

"3.16.9.1 low energy ignition system; A secondary, low energy type ignition system shall be installed for engine starting under less severe conditions, to provide selective starting with the high energy system specified in Par. 3.16.9. Controls for ignition shall be located in the pilot's compartment."

TWA has been assured that provisions covered by this proposal will be adequate to handle electrical load inputs of two high energy systems firing simultaneously, but that the existing switching arrangement is not sufficient to accomplish this result.

This change results in a weight increase of 35 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is

J. Savard
A. J. Savard
Project Engineer

CONVAIR-SAN DIEGOSALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 8 August 1958

Reference: (a) TWA letter, 880-693A-160,
dated 5 August 1958
(b) Commercial Change Proposal No. 204
(c) MCL No. 207
(d) D.I.B. No. 4.010

SO No: 880-1-163

WO No: 30,000 Series

SPECIFICATION ADMINISTRATIVE CHANGE - STABILIZER TRIM CONTROLMODEL 880 - TWA

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 207, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (9/5/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.



C. G. Glasgow
Manager of Contracts

WDW:bc

Log No: 4645

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AUG 12 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

12 August 1958

No. 140
22-1

Reference: (a) S. O. 880-1-163 dated 8 August 1958
(b) Commercial Change Proposal No. 204
(c) MCL No. 207

1. Specification Administrative Change - Stabilizer Trim Control

TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), prepared in accordance with MCL No. 207, Reference (c).

DESCRIPTION OF CHANGE:

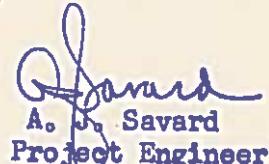
Page 40, Paragraph 3.10.1.5.1 STABILIZER TRIM CONTROL:

Revise the entire paragraph to read as follows:

"STABILIZER TRIM CONTROL: An electrically operated motor and clutch assembly shall be incorporated in the stabilizer trim system to provide control of stabilizer trim by means of switches installed on a knob on the upper part of the outboard horn of the pilot's and co-pilot's control wheels. Switches shall be installed at an angle inclined forward of the vertical. The switches shall be of the slide contact type and shall operate up and forward for nose down trim and down and aft for nose up trim. An override switch shall be provided on the pedestal, adjacent to the stabilizer hydraulic cutoff, capable of disconnecting all power to the electric stabilizer trim system. This switch shall be guarded in the "on" position.

ACTION: All concerned are authorized to proceed with the above. ca-
tions Group to forward revised specification pages to Cont
within four weeks of Sales Order date.

AJS:JMC:is


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Reference: (a) TWA letter, 880-680A-157,
dated 17 July 1958
(b) Commercial Change Proposal No. 128B
(c) MCL No. 255
(d) D.I.B. No. 4.010

Date: 23 July 1958
SO No: 880-1-162
WO No: 30,000 Series

MODEL 880 - TWAMISCELLANEOUS ELECTRONIC CLARIFICATIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 255, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/20/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.

co Roberts
C. G. Glasgow
Manager of Contracts

WDW:bc

Log NO, 4496

CONVAIR-SAN DIEGOSALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 23 July 1958

SO No: 880-1-161

Reference: (a) TWA letter, 880-682A-158,
dated 17 July 1958
(b) Commercial Change Proposal No. 191
(c) MCL No. 259
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWAHAT RACK CANOPY LENGTH

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 259, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/20/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, delivery schedule, or contract price.



C. G. Glasgow
Manager of Contracts

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JUL 25 '58

Log No: 4497PROJECT
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C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

24 July 1958

No. 138

22-1

Reference: (a) S.O. 880-1-161 dated 23 July 1958
(b) Commercial Change Proposal No. 191
(c) MCL No. 259

1. HAT RACK CANOPY LENGTH

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 259, reference (c).

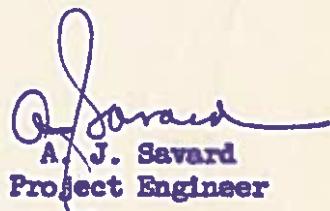
DESCRIPTION OF CHANGE:

Page 113, Paragraph 3.19.3.3 TRIM

Change the period at the end of second sentence to a comma and add the following:

"except for the panels above the cabin hat racks which shall not exceed approximately 15 feet."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:rb

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

24 July 1958

No. 139

22-1

Reference (a) S.O. 880-1-162 dated 23 July 1958
(b) Commercial Change Proposal No. 128B
(c) MCL No. 255

1. MISCELLANEOUS ELECTRONIC CLARIFICATIONS

TWA has accepted, as evidenced by reference (a), our proposal, Reference (b) based upon MCL 255, reference (c).

A copy of the proposal is attached.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGO

SALES ORDER

CCPS #23

Sold to: Hughes Tool Company
Houston, Texas

Date: 18 July 1958

Reference: (a) TWA TWX, 880-653A-151, dated
30 June 1958

(b) Commercial Change Proposal No. 181

(c) MCL No. 228

(d) D.I.B. No. 4.010

SO No: 880-1-160

WO No: 30,000 Series

MODEL 880 - TWA

INCREASE MAXIMUM LANDING WEIGHT TO 132,800 POUNDS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 228, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/15/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of 80 pounds with no effect on performance or delivery schedule.

FOR ACCOUNTING DEPARTMENT ONLY

- (4) This change results in an increased price per airplane of \$985 for a total contract increase of \$29,550, amortized over a 40 airplane program.

for Convair San Diego
C. G. Glasgow
Manager of Contracts

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WDW:bc

Log No: 4454

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

22 July 1958

No. 137
22-1

Reference: (a). S. O. 880-1-160 dated 18 July 1958
(b). Commercial Change Proposal No. 181
(c). MCL No. 228

1. Increase maximum landing weight to 132,800 pounds.

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference (b), to increase the maximum landing weight to 132,800 pounds without any change in maximum zero fuel weight.

This change results in a weight empty increase of 80 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.

AJS:JMC:is


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGO

SALES ORDER

CAPS #23

Sold to: Hughes Tool Company
Houston, Texas

Date: 16 July 1958

Reference: (a) TWA letter, 880-665A-154, dated
8 July 1958
(b) Commercial Change Proposal No. 91B
(c) MCL No. 117
(d) D.I.B. No. 4.010

SO No: 880-1-159
WO No: 30,000 Series

MODEL 880 - TWA

VGH RECORDERS, SPACE PROVISIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 117, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
 - (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/13/58) per Reference (d).
 - (3) This change has no effect on aircraft guaranteed weight empty, contract price, delivery schedule, or aircraft performance.

John Thomas Gould
C. G. Glasgow
Manager of Contracts

SJH:bc

Log No 4476

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JUL 23 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

22 July 1958

No. 136

22-1

Reference: (a). S. O. 880-1-159 dated 16 July 1958
(b). Commercial Change Proposal No. 91 B
(c). MCL No. 117

1. VGH Recorders, Space Provisions TWA has accepted, as evidenced by Reference (a), our Proposal Reference (b), based on MCL 117, Reference (c).

Page 61, Paragraph 3.14 INSTRUMENTS AND NAVIGATION EQUIPMENT:

Add the following new paragraph to the page:

"3.14.3.9 VGH RECORDING PROVISIONS: Provisions shall be made for the later installation of one VGH recorder on each of two airplanes* to record research data for gust studies. The VGH recorder provisions shall be on the auto-pilot rack and the acceleration transmitter provisions on the floor beam in the rear spar area. The provisions shall include the mountings and aluminum tubing from the co-pilot's static line and the pitot line to the autopilot rack. Means shall be provided for capping these lines when recorders are not installed. A circuit breaker, nameplate and the necessary wiring shall be installed."

Add the following foot note to the bottom of the page:

"*The specific airplanes on which the VGH recorder provisions shall be installed will be Convair Production No. 18 and 19 (TWA ship No. 12 and 13).

*Not to be a part of the Specification Language:

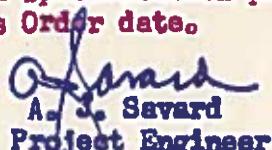
The following weight effect shall be subtracted from the as weighed figures when considering guaranteed weight of the affected airplanes and is not to be included in the accumulative specification weight figures.

Effect on Weight: +7.0 pounds

ACTION:

All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date.

AJS:JMG:is


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGO

SALES ORDER

CCPS # 21

Sold to: Hughes Tool Company
Houston, Texas

Date: 11 July 1958

Reference: (a) TWA TWX, 880-673A-156,
dated 10 July 1958

(b) Commercial Change Proposal No. 198

(c) MCL No. 267

(d) D.I.B. No. 4.010

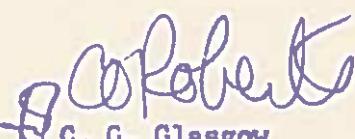
SO No: 880-1-158

WO No: 30,000 Series

MODEL 880 - TWA

CO-PILOT'S CLOCK, CHANGE OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 267, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/8/58) per Reference (d).
- (3) This change results in an increase in the guaranteed weight empty of the aircraft of one pound with no effect on performance or delivery schedule.


C. G. Glasgow
Manager of Contracts

RECEIVED

JUL 16 '58

PROJECT
SPEC.
GROUP

WJ
WDW:b@

Log No: 4420

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

22 July 1958

No. 135
22-1

Reference: (a). S. O. 880-1-158 dated 11 July 1958
(b). Commercial Change Proposal No. 198
(c). MCL 267

1. Co-pilot's Clock, Change of

TWA has accepted, as evidenced by Reference (a), our Proposal, Reference(b), prepared in accordance with MCL 267, Reference (c).

Description of change:

Page 56, Paragraph 3.14.1.2 COPILOT'S INSTRUMENTS:

Delete the twelfth item in the instrument list as follows:

"One terrain warning indicator light assembly"

Page A-8, APPENDIX L-C, INSTRUMENTS AND RELATED EQUIPMENT:

Change the first item in the Description List as follows:

From: "3 Clock" Elgin 2153W GRD. 690"

To: "2 Clock" Elgin 2153W GRD. 690"

Add the following new item to the Description List:

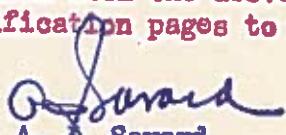
"1 Clock (Copilot's) Wakmann Model No. 640-12-10"

Figure 3.14.1 PILOT'S AND COPILOT'S INSTRUMENT PANELS:

Revise figure as required to reflect the above change.

This Change results in an increase in the guaranteed weight empty of one pound per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGO

CCPS #2.1
SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 10 July 1958

SO No: 880-1-157

Reference: (a) TWA letter, 880-662A-153, dated 3 July 1958
(b) Commercial Change Proposal No. 196
(c) MCL No. 269
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWA

EMERGENCY BRAKE SYSTEM ACCUMULATOR CAPACITY

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 269, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/7/58) per Reference (d).
- (3) This change has no effect on contract price, guaranteed weight empty, performance, or delivery schedule.

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

RECEIVED

JUL 16 '58

PROJECT
SPEC.
GROUP

M WDW:bc

Log No: 4302

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

11 July 1958

No. 134

22-1

Reference: (a) S.O. 880-1-157 dated 10 July 1958
(b) Commercial Change Proposal No. 196
(c) MCL No. 269

1. EMERGENCY BRAKE SYSTEM ACCUMULATOR CAPACITY

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to clarify and correct the intent of the specification.

Description of change:

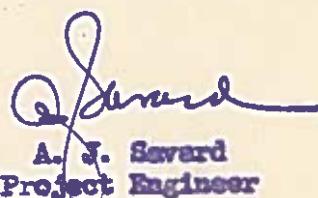
Page A-8, Appendix I-C, Instruments and Related Equipment:

Change the below listed item in the Description List as follows:

From: "One Air Bottle, 3000 psi, 500-Cubic Inch Capacity
(with pressure gage)"

TO: "One Air Bottle, 3000 psi, 400-Cubic Inch Capacity
(with pressure gage)"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Seward
Project Engineer

CONVAIR-SAN DIEGO

W. J. Brown
Hold for inspection
Sales Order
SALES ORDER
CCPS
H25

Sold to: Hughes Tool Company, Houston, Texas Date: 7 July 1958
Reference: (a) TWA TWX, 880-658A-152, dated 3 July 1958 SO No: 880-1-156
(b) Commercial Change Proposal No. 160A WO No: 30,000 Series
(c) MCL No. 194,
(d) D.I.B. No. 4.010

MODEL 880 - TWA

REVISION TO INTERIOR FABRIC WEIGHTS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 194, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (8/4/58) per Reference (d).
- (3) This change results in a weight increase of 195 pounds per aircraft with no effect on contract price, performance, or delivery schedule.

RECEIVED

JUL 11 '58

PROJECT
SPEC.
GROUP

Roberts
C. G. Glasgow
Manager of Contracts

WDW:be

Log No: 4334

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
8 July 1958

No. 133

22-1

- Reference: (a) S.O. 880-1-156 dated 7 July 1958
(b) Commercial Change Proposal No. 160A
(c) MCL No. 194

1. Revision to Interior Fabric Weights

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to adjust weights of fabric selected by the customer for interior trim.

Description of change:

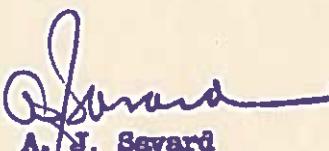
Page A-15, APPENDIX I-C, FURNISHINGS:

Revise the below listed items under "Interior Trim" as follows:

Cabin Floor Covering	55.0 oz
Cabin Floor Covering Up Sidewall	55.0 oz
Buffet, Lavatory and Entrance Floor Covering	55.0 oz
Cabin Wainscot Trim	20.0 oz
Seat Upholstering (36 doubles) Cabin	18.0 oz
Seat Upholstering (6 doubles) Lounge	16.0 oz
Seat Trim Liner (6 doubles) Lounge	20.0 oz.

This change results in a weight increase of 195 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Sevard
Project Engineer

W. J. Brown
CONVAIR-SAN DIEGO

CCPS #21

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 26 June 1958

Reference: (a) TWA letter, 880-639A-148,
dated 16 June 1958
(b) Commercial Change Proposal No. 190
(c) MCL No. 258
(d) D.I.B. No. 4.010

SO No: 880-1-155

WO No: 30,000 Series

MODEL 880 - TWA

LOCATION OF WATER FIRE EXTINGUISHERS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 258, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/24/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, contract price, performance, or delivery schedule.

W. J. Brown
WDW:bc

Log No: 4293

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

RECEIVED

JUL 7 '58

PROJECT
SPEC.
GROUP

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

30 June 1958

No. 132

22-1

- Reference: (a) S.O. 880-1-155 dated 26 June 1958
(b) Commercial Change Proposal No. 190
(c) MCL No. 258

1. LOCATION OF WATER FIRE EXTINGUISHERS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 258, reference (c).

Description of Change:

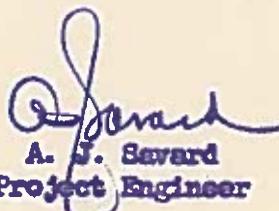
Page 116, Para. 3.19.4.3.2 WATER FIRE EXTINGUISHER:

Revise the paragraph to read as follows:

"Three water fire extinguishers shall be provided; one located in the forward entrance area and two on the forward side of the partition immediately forward of the aft entrance way."

Delete paragraph "3.19.4.3.3 PASSENGER COMPARTMENT FIRE EXTINGUISHERS"

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Sevard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGOSALES ORDER

Sold to: Hughes Tool Company
Houston, Texas Date: 25 June 1958

Reference: (a) TWA letter, 880-640A-149,
dated 20 June 1958 SO No: 880-1-154

(b) Commercial Change Proposal No. 184
(c) MCL No. 261 WO No: 30,000 Series

(d) D.I.B. No. 4.010

MODEL 880 - TWACHECK-OFF LIST

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 261, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contract Department within four weeks (7/23/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, contract price, performance, or delivery schedule.

NWDW:bc

Log No: 4299


C. G. Glasgow
Manager of Contracts

A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

30 June 1958

No. 131

22-1

Reference: (a) S.O. 880-1-154 dated 25 June 1958
(b) Commercial Change Proposal No. 184
(c) MCL No. 261

1. CHECK-OFF LIST

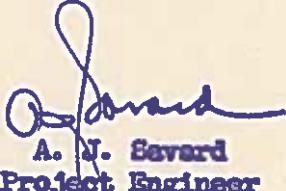
TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on MCL 261, reference (c).

Description of change:

Page 111, Para. 3.19.2.8.2 - CHECK-OFF LIST.

Delete the words "scroll-type" in first line.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Sevard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGO

SALES ORDER

CCPS#21

Sold to: Hughes Tool Company
Houston, Texas

Date: 23 June 1958

SO No: 880-1-153

Reference: (a) TWA letter, 880-637A-147,
dated 16 June 1958
(b) Commercial Change Proposal No. 195
(c) MCL No. 260
(d) D.I.B. No. 4.010

WO No: 30,000 Series

MODEL 880 - TWA

DELETION OF LANDING FLARE PROVISIONS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 260, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/21/58) per Reference (d).
- (3) This change results in a weight decrease of 13 pounds per airplane with no effect on performance or delivery schedule.

WDW:bc

Log No: 4274

J. R. C. G. Glasgow
C. G. Glasgow
Manager of Contracts

MST Z

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

24 June 1958

No. 130

22-1

Reference: (a) S.O. 880-1-153 dated 23 June 1958
(b) Commercial Change Proposal No. 195
(c) MCL No. 260

1. DELETION OF LANDING FLARE PROVISIONS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), prepared in accordance with reference (c).

The task is as follows:

1. Delete cutouts for flare holes at stations 1552 & 1559, remove door assys, 22-98033 and apply patches to skins installed.
2. Remove circuit breaker and name plate.
3. Fabricate and install new name plate.
4. Remove overhead exterior light panel, switch and plastic panel.
Reference drawing #22-06417.
5. Fabricate and install new overhead exterior light panel and install new plastic panel.
6. Rework and reinstall 8 harnesses by removing 4 wires from 4 harnesses, 2 wires from 2 harnesses and 1 wire from 2 harnesses.
7. Wiring to be pre-released 2 weeks after go ahead.
Mechanical portion final release 8 weeks after go ahead.
8. Remove brackets 22-98300-7 & 8 (2 ea.)
Remove clevis 22-98306 (2)
Remove solenoid 22-09499-1 (2)
Remove chute assemblies 22-98301-1 & -2 (1 ea.)
Remove support 22-98305-1 & -2 (1 ea.)
9. Mechanical portion item 8 not installed ship #1 - flight test airplane.

Engineering will issue a special E.O. allowing the wires that are being deleted to be "dead-ended" on ship #1 only.

Engineering for item 8 on work statement will be released by 11 July 1958.
Wiring will be pre-released 11 July 1958.
Mechanical portion will be final released by 22 August 1958.

CONVAIR-SD

TWA Minutes
No. 130, 22-1

24 June 1958
Page two

New overhead exterior light panel and plastic panel will be available for on-station installation in final assembly.

Back-up plate, which is installed in primary, will be available 8/1 for installation. (This includes placement of POR 2 weeks after go ahead, including "walk-thru" A&M time and 3 weeks fabrication.)

This change results in a weight decrease of 13 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. S. Savard
Project Engineer

AJS:JMC:rb

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

24 June 1958

No. 129

22-1

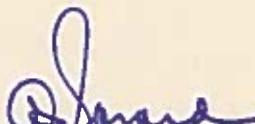
- Reference: (a) S.O. 880-1-152 dated 23 June 1958
(b) Commercial Change Proposal No. 180
(c) MCL No. 224

1. DELETION OF LANDING FLARES

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), for deletion of the Landing Flares.

This change results in a weight decrease of 37 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within four weeks of Sales Order date.


A. J. Sevard
Project Engineer

AJS:JMC:rb

CONVAIR-SAN DIEGOSALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 23 June 1958

Reference: (a) TWA letter, 880-636A-146,
dated 16 June 1958
(b) Commercial Change Proposal No. 180
(c) MCL No. 224
(d) D.I.B. No. 4.010

SO No: 880-1-152

WO No: 30,000 Series

MODEL 880 - TWADELETION OF LANDING FLARES

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 224, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within four weeks (7/21/58 per Reference (d)).
- (3) This change results in a weight decrease of 37 pounds per airplane with no effect on performance or delivery schedule.

WDW:bc

Log No: 4425

12 *C. G. Glasgow*
Manager of Contracts

CONVATEX-SAN DIEGO

CCPS-21

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 12 June 1958

SO No: 880-1-151

WO No: 30,000 Series

Reference: (a) TWA letter, 880-629A-145,
dated 9 June 1958
(b) Commercial Change Proposal No. 182
(c) MCL No. 227

MODEL 880 - TWA

SUPPLEMENTARY FLUORESCENT LIGHTING ON PILOTS' PANELS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 227, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date.
- (3) This change results in a weight increase per airplane of four (4) pounds, with no effect on performance, delivery schedule, nor contract price.

SJH:be

f. c. Roberts
F. C. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

18 June 1958

No. 128
22-1

Reference: (a) S.O. 880-1-151 dated 12 June 1958
(b) Commercial Change Proposal No. 182
(c) MCL No. 227

1. SUPPLEMENTARY FLUORESCENT LIGHTING ON PILOTS' PANEL

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based on reference (c), MCL 227. The task is as follows:

- A. Add one circuit breaker and nameplate to circuit breaker panel.
- B. Fabricate and install three fluorescent fixtures under glare shield - mounting provisions already installed. Fixtures consist of sheet metal reflectors similar to those used in cockpit lighting mock-up.
- C. Purchase and install three 8 watt instant start ballasts.
- D. Replace pilot's white light rheostat with one containing a switch at the maximum incandescent brightness level such that when rheostat is turned to maximum level the fluorescent fixtures will light in addition to the incandescent lights.
- E. Purchase and install three 8 watt T-5 lamps per airplane.

This change results in a weight increase of 4 pounds per airplane.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date.


A. J. Savard
Project Engineer

SALES ORDER

To: Hughes Tool Company
Houston, Texas.

Date: 22 June 1958
Revised: 15 July 1959
SO No. 880-1-150

Reference: (a) Convair letter Li-5-3745 dated
17 December 1957

WO No. 50,000 Series

(b) TWA letter 880-454, dated
2 January 1958

(c) Amendment No. 2 to Purchase Agreement
By and Between General Dynamics and
Hughes Tool Company

Revised to add Paragraph (5)

MODEL 880 - TWA

MICRO MASTER NEGATIVES

Under Letter of Agreement No. 16 dated 20 September 1956, Convair agreed to furnish Hughes Tool Company one (1) Micro Master negative and one (1) contact print or one (1) reproducible copy of each drawing from which the first of the aircraft (880) is manufactured and revisions and replacements for these negatives and prints. Pursuant to this Agreement, reference (a) letter quoted to Hughes Tool Company a firm price for this service. Reference (b) letter accepted Convair's proposal and advised further details regarding the customer's requirements. Under reference (c) Amendment, the services in question have been made a matter of contractual obligation on the part of Convair in connection with the Purchase Agreement with Hughes Tool Company.

This Sales Order authorizes all concerned to proceed with the development of the necessary Micro Master negatives and replacement service which is to include the following:

A. One (1) diazo process ~~so~~in copy of all "A" size drawings (8 $\frac{1}{2}$ " X 11") except "A" size wiring diagrams.

B. One (1) Micro Master set of all detail drawings, said set to consist of one (1) 105 mm. negative, one (1) plastic filing sleeve and one (1) properly identified file envelope for each drawing.

C. One (1) Micro Master 105 mm. set (same as in "B" above) of all wiring diagrams from which the wiring diagram manual pages are made if the original tracing size exceeds the wiring diagram manual page size or exceeds 11" X 17" (if original tracing does not exceed manual page size or 11" X 17" a diazo process reproducible copy only to be furnished).

D. Revision replacement service for the foregoing to be accomplished as necessary at six-month intervals until such time as all drawings and diagrams have been brought up to date with regard to the configuration of the last aircraft delivered under the Hughes Tool Company Purchase Agreement.

SALES ORDER

Hughes Tool Company
Houston, Texas

Dates: 12 July 1958
Revised: 15 July 1959
SO No: 880-1-150

WO No: 20,000 Series

- Reference: (a) Convair letter 11-5-5745 dated
17 December 1957
(b) TWA letter 880-454, dated
2 January 1958
(c) Amendment No. 2 to Purchase Agreement
By and Between General Dynamics and
Hughes Tool Company

In connection with material and services to be furnished to Hughes Tool Company as indicated in paragraph (2) above, the following are part of the customer's requirements and are to be provided as noted:

- A. The first set of diazo sepia and Micro Masters will be required not later than 30 days prior to delivery of the first aircraft.
- B. Preparation of Micro Masters is to be limited to reductions of 1/4 or 1/8 size of the original drawing and no other reduction sizes are to be used.
- C. Original drawings only are to be used as the basis of developing Micro Masters or diazo sepia.
- D. Each negative furnished is to be identified to make it readily possible to insert in projection viewers for correct projection.
- E. Large size drawings such as those in the "R" category will require additional negatives and filing sleeves and these additional negatives are to be identified and filed in the same envelope as the negatives bearing the same drawing number.

WDW:cd

J. C. Roberts
J. C. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
16 June 1958

No. 127
22-1

Reference: (a) S. O. 880-1-150 Dated 12 June 1958

1. MICRO MASTER NEGATIVES

Under Letter of Agreement No. 16 dated 20 September 1956, Convair agreed to furnish Hughes Tool Company one (1) Micro Master negative and one (1) contact print or one (1) reproducible copy of each drawing from which the first of the aircraft (880) is manufactured and revisions and replacements for these negatives and prints.

2. This Sales Order authorizes all concerned to proceed with the development of the necessary Micro Master negatives and replacement service which is to include the following:
 - A. One (1) diazo process sepia copy of all "A" size drawings (8 1/2 x 11") except "A" size wiring diagrams.
 - B. One (1) Micro Master set of all detail drawings, said set to consist of one (1) 105 mm. negative, one (1) plastic filing sleeve and one (1) properly identified file envelope for each drawing.
 - C. One (1) Micro Master 105 mm. set (same as in "B" above) of all wiring diagrams from which the wiring diagram manual pages are made if the original tracing size exceeds the wiring diagram manual page size or exceeds 11" x 17" (if original tracing does not exceed manual page size or 11" x 17" a diazo process reproducible copy only to be furnished).
 - D. Revision replacement service for the foregoing to be accomplished as necessary at six-month intervals until such time as all drawings and diagrams have been brought up to date with regard to the configuration of the last aircraft delivered under the Hughes Tool Company Purchase Agreement.
3. In connection with material and services to be furnished to Hughes Tool Company as indicated in paragraph (2) above, the following are part of the customer's requirements and are to be provided as noted:

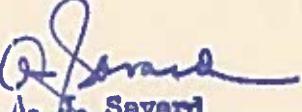
CONVAIR-SD

Page #2
TWA Minutes - 16 June 1958

- A. The first set of diazo sepia and Micro Masters will be required not later than 30 days prior to delivery of the first aircraft.
- B. Preparation of Micro Masters is to be limited to reductions of 1/4 or 1/8 size of the original drawing and no other reduction sizes are to be used.
- C. Original drawings only are to be used as the basis of developing Micro Masters or diazo sepia.
- D. Each negative furnished is to be identified to make it readily possible to insert in projection viewers for correct projection.
- E. Large size drawings such as those in the "R" category will require additional negatives and filing sleeves and these additional negatives are to be identified and filed in the same envelope as the negatives bearing the same drawing number.

ACTION: All concerned are authorized to proceed with the above.

AJS:JMC:s


A. J. Savard
Project Engineer

CONVAIR-SAN DIEGOSALES ORDER

Sold to:	Hughes Tool Company Houston, Texas	Date:	12 June 1958
Reference:	(a) TWA letter, 880-626A-144, dated 6 June 1958 (b) Commercial Change Proposal No. 133A (c) MCL No. 240	SO No:	880-1-149
		WO No:	30,000 Series

MODEL 880 - TWASPECIFICATION ADMINISTRATIVE CHANGE - POWER PLANT ITEMS

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 240, Reference (c), with the following exception: "The paragraph numbered 3.12.9.13.2 should be numbered 3.12.9.13.3." Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b) and the exception noted above. A revised Commercial Change Proposal will not be necessary.
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date.
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.

SJH:be

Log No: 4704

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

C O M V A G H
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

13 June 1958

No. 126
22-1

Reference: (a) S.O. 880-1-149 dated 12 June 1958
(b) Commercial Change Proposal No. 133A
(c) MCL No. 240

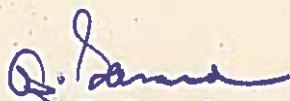
1. SPECIFICATION ADMINISTRATIVE CHANGE - POWER PLANT ITEMS

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), with the following exception:

"The paragraph numbered 3.12.9.13.2 should be numbered 3.12.9.13.3."

A revised Commercial Change Proposal will not be necessary. A copy of the proposal is attached.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts at the earliest possible date.


A. J. Seward
Project Engineer

AJS:JMC:rb

6/11/58

CONVAIR-SAN DIEGO

CCPS # 20

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas Date: 10 June 1958

Reference: (a) TWA letter, 880-624A-143, dated 4 June 1958 SO No: 880-1-148

(b) Commercial Change Proposal No. 21A WO No: 30,000 Series

(c) MCL No. 87

MODEL 880 - TWA

FUEL SYSTEM, CHANGE FROM PRESSURE SYSTEM TO A NON-PRESSURIZED SYSTEM

(1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL No. 87, Reference (c), with the following exceptions:

1. Paragraph 3.12.9.2.1 shall be revised to read as follows:

"3.12.9.2.1 TRANSFER PUMPS:

Transfer pumps shall be interchangeable with the boost pumps and shall be located as shown in each main tank to supply the boost pump baffle areas, . . ." (Remainder of paragraph per CCP 21A).

2. Paragraph and page identification should be revised as follows due to specification changes incorporated by change orders subsequent to preparation of CCP 21A.

Page 2 "Delete the last two paragraphs on page 48" should read "Delete the first two paragraphs on page 52A."

"Page 49, delete the first three sentences and related note" should read "Page 52A, delete the last three paragraphs and related note."

Page 5 (Specification Page 52)
"Change paragraph 3.12.9.12.1 to read 3.12.9.12 - Fuel Temperature Indication" was handled by Change Order 7.

(Specification Page 54)
Paragraph 3.12.11.2 GENERAL CONTROLS:

"Change last item in controls list from 'Fuel dump controls' to 'Fuel jettison controls'" should read "change next to last item in controls list, etc."

RECEIVED
JUN 12 '58
PROJECT SPEC. GROUP

(Continued on Page 2)

Sold to: Hughes Tool Company
Houston, Texas Date: 10 June 1958
Reference: (a) TWA letter, 880-624A-143, dated 4 June 1958 SO No: 880-1-148
(b) Commercial Change Proposal No. 21A
(c) MCL No. 87 WO No: 30,000 Series

MODEL 880 - TWA

FUEL SYSTEM. CHANGE FROM PRESSURE SYSTEM TO A NON-PRESSURIZED SYSTEM

- (1) (Cont) All departments concerned are directed to proceed with the change outlined in Reference (b) and the exceptions outlined above.
 - (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department at the earliest possible date. Reference (b), with the noted exceptions, is to be incorporated into the next available Change Order.
 - (3) This change has no effect on aircraft guaranteed weight empty, airplane performance, nor delivery schedule.

SJH:bq

Log No: 1205

 C. G. Glasgow
Manager of Contracts

Mef

C O N V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
10 June 1958

No. 125

22-1

Reference: (a) S.O. 880-1-148 dated 10 June 1958
(b) Commercial Change Proposal No. 21A
(c) MCL No. 87

1. FUEL SYSTEM, CHANGE FROM PRESSURE SYSTEM TO A NON-PRESSURIZED SYSTEM

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to change to a fuel system incorporating electrically driven transfer and booster pumps, hydraulically driven jettison pumps and tanks pressurized only by ram air pressure, with a maximum differential of +3.0 psi.

The following exceptions to reference (b) proposal shall apply:

Paragraph 3.12.9.2.1 shall be revised to read as follows:

"3.12.9.2.1 TRANSFER PUMPS:

Transfer pumps shall be interchangeable with the boost pumps and shall be located as shown in each main tank to supply the boost pump baffle areas, . . ." (Remainder of paragraph per CCP 21A).

Paragraph and page identification should be revised as follows due to specification changes incorporated by change order subsequent to preparation of CCP 21A.

Page 2 "Delete the last two paragraphs on page 48" should read
"Delete the first two paragraphs on page 52A."

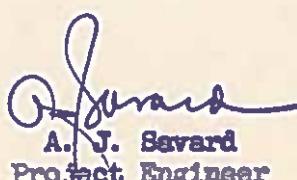
"Page 49, delete the first three sentences and related note" should read "Page 52A, delete the last three paragraphs and related note."

Page 5 (Specification Page 52)
"Change paragraph 3.12.9.12.1 to read 3.12.9.12 - Fuel Temperature Indication" was handled by Change Order 7.

(Specification Page 54)
Paragraph 3.12.11.2 GENERAL CONTROLS:

"Change last item in controls list from 'Fuel dump controls' to 'Fuel jettison controls'" should read "change next to last item in controls list, etc."

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date. Reference (b), with the noted exceptions, is to be incorporated into the next available Change Order.


A. J. Savard
Project Engineer

MEF

CONVAIR-SAN DIEGO

ACCOUNTING SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 20 May 1958
*Revised: 26 May 1958
SO No: 880-1-145

WO No: 30,000 Series

MODEL 880 - HUGHES TOOL COMPANY

CHANGE ORDER NO. 15

- (1) Attached is a copy of Change Order No.15 signed by Hughes Tool Company, which amends Detail Specification Report No. ZD-22-002, dated 1 June 1956, revised 7 September 1956 to incorporate Specification Change Nos. 35D, 61A, 62A, 96, 98, 108A, 110, 111, 121 and 125 on the Model 880 aircraft.

WDW:bc

Log No 431 5009

C. G. Glasgow
C. G. Glasgow
Manager of Contracts

f *Revised to distribute conformed copies of Change Order.

cc: E. Burke (w/exec. copy)
880 Project Office (w/attach 2)
Comm. Sales (w/attach)
H. A. Kayes (w/attach)
Contracts Staff Section (w/attach)
R. E. Johnson (w/attach)
J. Doig (w/attach)

W. F. Brown (w/attach)
G. Whisler (w/attach)
H. R. Kennedy (w/attach)
Commercial Contracts
Arthur Anderson & Company
Change Order No. 15

RECEIVED

MAY 29 1958

PROJECT
SPEC.
GROUP

CHANGE ORDER NO. 15
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

A. The Detail Specification is hereby amended to reflect certain changes all as more particularly set forth in Specification Change Nos. 35D, 61A, 62A, 96, 98, 108A, 110, 111, 121 and 125 and Commercial Change Proposal Summary No. 14 attached hereto and made a part hereof.

B. Airplanes Affected:

Undelivered - 30

C. Effect on weight and balance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 14 attached.

D. Effect on performance:

As reflected in Specification Changes and Commercial Change Proposal Summary No. 14 attached.

E. Effect on delivery:

None

F. This Change Order results in the following charges and/or credits:

1. Change No. 35D - Engine Starting System,
Additional Provisions for (Pages 55 and 64)

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 590.00	\$ 17,700.00
Non-recurring Charge	<u>3,215.00</u>	<u>96,450.00</u>
Total Charges	<u>\$ 3,805.00</u>	<u>\$ 114,150.00</u>

2. Change No. 61A - Pilot and Copilot Chart Light, (revision) (Page 74 (Cont.))

Recurring Charge	\$ 38.00	\$ 1,140.00
Non-recurring Charge	<u>84.00</u>	<u>2,520.00</u>
Total Charges	<u>\$ 122.00</u>	<u>\$ 3,660.00</u>

3. Change No. 62A - Low Pressure Warning Light, deletion of (Page 57)

Recurring Credit	\$ 78.00	\$ 2,340.00
Non-recurring Credit	<u>26.00</u>	<u>\$ 780.00</u>
Total Credits	<u>\$ 104.00</u>	<u>\$ 3,120.00</u>

CHANGE ORDER NO. 15
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002
Dated 1 June 1956, Revised 7 September 1956

4. Change No. 96 - Fuel Quantity System Counterpointer Indicator (Page A-10 (Accomp. by 19D))

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charge	\$ 204.00	\$ 6,120.00
Non-recurring charge	<u>35.00</u>	<u>1,050.00</u>
Total Charges	\$ 239.00	\$ 7,170.00

5. Change No. 98 - Revised Description of Windshield Rain Removal System (Page 28 (Cont.), 28))

No Charges or Credits

6. Change No. 108A - National Aircraft Standard Bolts, Use of (Page 4)

No Charges or Credits

7. Change No. 110 - Revision of Rudder Servo Motor from Linear to Rotary Drive (Page A-9 (Accomp. by 19D))

No Charges or Credits

8. Change No. 111 - Specification Administrative Change (Air Cond. System) (Page 126)

No Charges or Credits

9. Change No. 121 - Flush Type Mooring Provisions, Deletion of (Page 127)

No Charges or Credits

10. Change No. 125 - Specification Administrative Change (ZM-256 to 0-09001) (Pages 8, 66, 67, 68 (Cont.) 70, 91, 92, 93, and 94)

No Charges or Credits

11. Summary of the foregoing charges and/or credits:

No Charges or Credits

Recurring Charges
Non-recurring Charges

	<u>Per Airplane</u>	<u>Total for 30 Airplanes</u>
Recurring Charges	\$ 754.00	\$ 22,620.00
Non-recurring Charges	<u>3,308.00</u>	<u>99,240.00</u>
Total Charges	\$ 4,062.00	\$ 121,860.00

CHANGE ORDER NO. 15
to
HUGHES TOOL COMPANY
Detail Specification Report No. ZD-22-002

- G. The attached Specification Change Nos. 35D, 61A, 62A, 96, 98, 108A, 110, 111, 121 and 125 and Commercial Change Proposal Summary No. 14 are hereby incorporated into and become a part of Detail Specification Report No. ZD-22-002 dated 1 June 1956, Revised September 1956.
- H. Except as herein modified all provisions of the Detail Specification shall remain in effect.

Accepted and agreed to

This 13 day of May 1956
HUGHES TOOL COMPANY

GENERAL DYNAMICS CORPORATION

By R. W. Rummel
Title Special Representative

By B. F. Coggan
Title Vice President -
CONVAIR Division

CCPS #20

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 12 May 1958

Reference: (a) TWA letter, 880-596A-137, dated
30 April 1958
(b) Commercial Change Proposal No. 115A
(c) MCL 27
(d) D.I.B. No. 4.010

SO No: 880-1-144

WO No: 30,000 Series

MODEL 880 - TWA

STRUCTURAL PROVISIONS FOR OVERWATER OPERATION

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 27, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (6/2/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.
- (4) This Sales Order supersedes in its entirety Sales Order No. 880-1-97.

W
WDW:be

Log No: 3994

*for C. G. Glasgow
Manager of Contracts*

C O M V A I R
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

13 May 1958

No. 122

22-1

- References: (a) S.O. 880-1-144 dated 12 May 1958
(b) Commercial Change Proposal No. 115A
(c) MCL 27

1. Structural Provisions for Overwater Operation

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), to include structural provisions for overwater operation.

Description of Change:

Page 25, Paragraph 3.7.1.1 DESCRIPTION:

Add the following sentences to the end of paragraph:

"Structural provisions shall be made, in the fuselage below the cabin floor level only, to permit the airplane to withstand water ditching loads compatible with the results obtained from NACA model tests. The structural provisions shall include reinforcement to the frames, hinges and latches of the following closures:

1. Two cargo doors
2. Electrical compartment access door
3. Hydraulic compartment access door
4. Door at the top of nose wheel well
5. Two miscellaneous equipment access doors (Sta. 221, L. & R.)

Additional local doublers and reinforcement as required shall be provided on the longerons adjacent to the doors."

These Minutes supersede TWA Minutes No. 80.

ACTION: All concerned are authorized to proceed with the above. Specifications Group to forward revised specification pages to Contracts within three weeks of Sales Order date.


A. J. Savard
Project Engineer

AJS:JMC:rb

CCPS-H-20

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 8 May 1958

Reference: (a) TWA letter, 880-594A-136, dated 29
April 1958
(b) Commercial Change Proposal No. 173
(c) MCL 196
(d) D.I.B. No. 4.010

SO No: 880-1-143

WO No: 30,000 Series

MODEL 880 - TWA

LAVATORY TOWEL DISPENSER, ADDITION OF

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 196, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (5/29/58) per Reference (d).
- (3) This change has no effect on aircraft guaranteed weight empty, performance, delivery schedule, nor contract price.

W.W. WDW:be

Log No: 3969

C. G. Roberts
C. G. Glasgow
Manager of Contracts

Dts

C O M V A I R
A Division of General Dynamics Corporation
(San Diego)

Meff

TWA Minutes

9 May 1958

No. 121

22-1

Reference: (a) S.O. 880-1-143 dated 8 May 1958
(b) Commercial Change Proposal No. 173
(c) MCL 196

1. Lavatory Towel Dispenser, Addition of

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), for addition of a third lavatory towel dispenser.

Description of Change:

Page 109, Para. 3.19.2.2.3 MISCELLANEOUS LAVATORY EQUIPMENT:

Change the seventh item in the equipment list as follows:

From: "Two towel dispensers (one for linen and one for paper)"

To: "One towel dispenser unit (consisting of three dispensers; two universal for either linen or paper, and one for paper only)"

Page A-14, APPENDIX I-C, FURNISHINGS:

Change the 14th item in the Description List as follows:

From: "3 Linen Towel Dispenser"

To: "3 Tovel Dispenser Units (each consisting of three dispensers; two universal for either linen or paper, and one for paper only)"

ACTION: All concerned are authorized to proceed with the above. Specification Group to forward revised specification pages to Contracts within three weeks of S.O. date.

A. J. Savard
A. J. Savard
Project Engineer

COPS #20

CONVAIR-SAN DIEGO

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 7 May 1958

Reference: (a) TWA TWX, 880-602A-138, dated
5 May 1958

(b) Commercial Change Proposal No. 174

(c) MCL No. 204

(d) D.I.B. No. 4.010

SO No: 880-1-142

WO No: 30,000 Series

MODEL 880 - TWA

PORTABLE OXYGEN CYLINDER ASSEMBLIES, REVISION TO

- (1) TWA has accepted, as evidenced by Reference (a), our proposal, Reference (b), based upon MCL 204, Reference (c). Accordingly, all departments concerned are directed to proceed with the change outlined in Reference (b).
- (2) Engineering Specification Section will forward necessary revised specification pages to the Contracts Department within three weeks (5/28/58) per Reference (d).
- (3) This change has no effect on guaranteed weight empty, performance, nor delivery schedule.
- (4) The Scott 5600-B3 and three Scott 5600-B3B oxygen cylinder configurations shall be in accordance with TWA letter 880-512 dated 24 February 1958.

WDW:b8

Log No: 3980

co Roberts
C. G. Glasgow
Manager of Contracts

CONVAIR
A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES
9 May 1958

No. 120

22-1

- Ref: (a) S.O. 880-1-142 dated 7 May 1958
(b) Commercial Change Proposal No. 17⁴
(c) MCL N_{o.} 204

1. Portable Oxygen Cylinder Assemblies, Revision to

TWA has accepted, as evidenced by reference (a), our proposal, reference (b), based upon MCL 204, reference (c), with the following revisions:

Cockpit

Provide one each Scott 5600 B-3 Portable Oxygen Assembly with the following modifications:

1. Constant-flow outlet plugged.
2. Mask attachment fitting on demand regulator shall be an AN type push-pull quick connection adapter (Scott Part No. 5606 or equivalent).
3. Demand mask assembly with the Assembly shall be a Scott 6200 FL mask with 28-inch length breathing hose and a Scott 7025 connector on the attachment end of the hose.

It is suggested that the demand mask assembly and the asbestos gloves be packaged in a pouch attached to the cylinder assembly, with the mask hose connected to the cylinder and ready for instant use.

Passenger Cabin Area

Provide three Scott 5600 B-3B Assemblies with the following modifications:

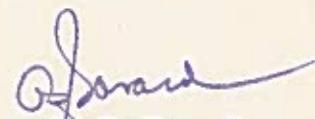
1. Puritan Valve Assembly, Part No. 110020, shall be installed in the constant-flow outlet.
2. Mask attachment fitting on the demand regulator shall be an AN type push-pull quick connection adapter, Scott Part No. 5606, or equivalent.
3. One demand mask shall be attached to the cylinder assembly ready for instant use. This mask shall be a Scott 6200 FL mask with 28-inch length breathing hose and A Scott 7025 connector on the attachment end of the hose.
4. One constant-flow Puritan mask assembly, Part No. 114010, shall be packaged with, but not assembled to, the cylinder assembly. The mask assembly shall consist of a Puritan No. 114011 Mask, No. 61101⁴ Tubing (60-inch length) and a No. 210019 Insert Stem.

UNIVAIR - SAN DIEGO

VA Minutes
May 1958

No. 120
22-1

ACTION: All concerned are authorized to proceed with the above change.
Engineering Specification Group will forward revised specification
pages to Contracts within three weeks of Sales order date.



A. J. Savard
Project Engineer

AJS:JEC:rb

CONVAIR-SD

SALES ORDER

Sold to: Hughes Tool Company
Houston, Texas

Date: 14 May 1958

Reference: (a) MCL No. 10,068
(b) MCL No. 10,069

SO No: 880-1-141

WO No: 30,000 Series

MODEL 880-TWA

PLUSH INTERIOR

- (1) This Sales Order cancels and supersedes Sales Order No. 880-1-75. Further, this Sales Order authorizes all departments to proceed with incorporation of the Harley Earle - Dorothy Draper interior in TWA's Model 880 aircraft.

COR:dm
JGTH
5-14-58

C G Roberts
f C. G. Glasgow
Manager of Contracts

Log No. 4023

A Division of General Dynamics Corporation
(San Diego)

TWA MINUTES

Revised: 19 May 1958 No. 124
29 May 1958 22-1

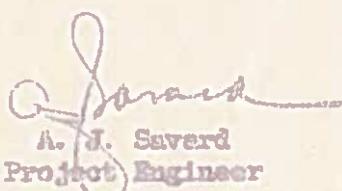
- Reference: (a) S.O. 880-1-141 dated 16 May 1958
(b) MCL No. 10,068
(c) MCL No. 10,069

INTERIOR

Reference (a) Sales Order authorizes all concerned to proceed with the incorporation of the Harley-Marie-Dorothy Draper interior in the TWA 880 aircraft.
These minutes cancel and supersede Minutes No. 65.

ACTION: All concerned are authorized to proceed as described above.

Specifications Group not to incorporate above change until authorized to do so.


A. J. Savard
Project Engineer